

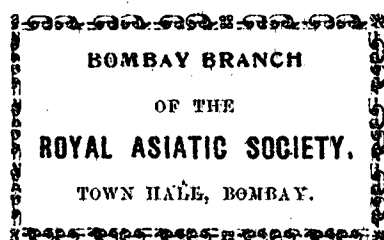
Cotton Committee,
Indian Central,

Proceedings.
20th to 36th Meetings

Feb. 1935 to Jan. 1938



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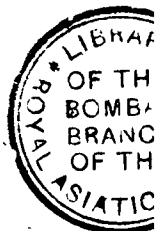
Summary Proceedings

of the

Thirtieth Meeting of the
Indian Central Cotton Committee,
Bombay,

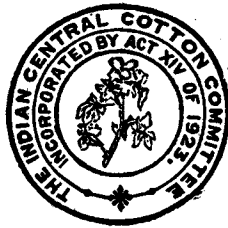
held on the

4th and 5th February 1935.



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Indian Central Cotton Committee.

With the Secretary's Compliments.

**Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.**

INDIAN CENTRAL COTTON COMMITTEE.

30TH MEETING—4TH AND 5TH FEBRUARY 1935.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS.

AGENDA.

	PAGE.
1. Presidential Address	5
2. Confirmation of Minutes	8
3. Retirement of members by rotation	8
4. Appointment of Vice-President and Sub-Committees	8
5. Half-yearly report of the Publicity and Propaganda Officer	10
6. System of marking bales—Reference from the International Federation of Master Cotton Spinners' and Manufacturers' Associations	10
7. Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee	14
8. Findings of the Special Meeting of the Agricultural Research Sub-Committee held in June 1934—Reference from the last meeting of the Indian Central Cotton Committee	23
9. Proposed maintenance of a minimum balance from the accumulated funds of the Committee—Reference from the Government of India	26
10. Spread of Garrow Hill or Deorwada cotton in Berar	33
11. Report of the Research Students' Selection Sub-Committee	33
12. Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee	34
13. Provincial Cotton Committees—Proceedings of the Central Provinces Provincial Cotton Committee	34
14. Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton	36
15. Tariff and other restrictions affecting the market for Indian cotton in foreign countries	36
16. Proposed negotiations with Italy on Indo-Italian Trade Relations	36
17. Possibility of growing long staple cotton in the present short staple cotton areas of India	36
18. Report of the Cotton Forecast Improvement Sub-Committee	36
19. Post-mortem Examination of the cotton forecasts of 1933-34 season	36
20. Reports of inquiries into the village consumption of cotton in the Punjab, Bombay Presidency Proper and Baroda State	36
21. Annual Census of stocks of cotton held in India	36
22. Summary of Proceedings of the Local Sub-Committee	37
23. Report of the Special Sub-Committee regarding the case of Mr. D. F. Kapadia, late Assistant Technologist, Technological Laboratory	37
24. Report of the Agricultural Research Sub-Committee	37
25. Seed Distribution and Extension Schemes—Proposals for seed schemes in the Southern Division of the Bombay Presidency	39
26. Report on the Scheme for Survey of disease of malformation in Punjab-American cotton	39

	PAGE.
27. Report of the Sub-Committee appointed to examine and report on the future of the Madras Pempheres and Physiological Research Scheme ..	39
28. Madras Herbaceum Research Scheme—Inspection Report of the Secretary and Mr. J. B. Hutchinson	39
29. Madras Nadam Cotton Breeding Scheme—Inspection Report of the Secretary and Mr. J. B. Hutchinson	39
30. Punjab Root Rot Scheme—Proposed extension of	39
31. Punjab Botanical Scheme—Proposed extension of	39
32. Punjab Spraying Trials Scheme—Proposed extension of	40
33. <i>Proposed New Agricultural Research Schemes</i> —Scheme for investigation into Red Leaf Disease of Doddahathi (American) cotton in Mysore State..	40
34. Letter from the Head of the Entomological Department, Oklahoma, commenting on the article on the Phototropic responses of <i>P. gossypiella</i> —by M. Afzal Husain, Entomologist to the Government of the Punjab ..	40
35. Technological Research—Progress Report of the Director, Technological Laboratory	40
36. Technological Research—Report of the Technological Research Sub-Committee	41
37. Report of the Standing Finance Sub-Committee	42
(a) Balance Sheet	88
(b) Financial Statement.	
(c) Revised Estimates, 1934-35	96
(d) Budget, 1935-36	104
(e) Auditors' Fees.	
38. Establishment of regulated cotton markets in the Punjab	43
39. Establishment of regulated cotton markets in the Bombay Presidency ..	43
40. Institute of Plant Industry, Indore—Programme of Research work and Budget for 1935-36	43
41. Egyptian Law to prevent the mixing of different varieties of cotton ..	45
42. Broadcasting in the mornings of Commercial News on cotton	45
43. Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.	45
44. Appointment of Auditors for 1935-36	46
45. Institute of Plant Industry, Indore—Payment of instalments of grant for the current year	43
46. Licenses to import cotton from Vyara to Surat	47
47. Study leave of Rai Sahab Kalidas Sawhney	47
Resolutions passed by the Committee	48

APPENDICES.

I. Half-yearly report of the Publicity and Propaganda Officer ..	57
II. System of marking bales—Reference from the International Federation of Master Cotton Spinners' and Manufacturers' Associations—Secretary's note	59
III. Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee—Secretary's note	60
IV. Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton	64
V. Report of the Cotton Forecast Improvement Sub-Committee	65
VI. Report of the Agricultural Research Sub-Committee	66
VII. Technological Research—Summary of Progress Report of the Director, Technological Laboratory	71

	PAGE.
VIII. Technological Research—Report of the Technological Research Sub-Committee	78
IX. Report of the Standing Finance Sub-Committee	83
X. Egyptian Law to prevent the mixing of different varieties of cotton—Secretary's note	111

Present :

- Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E., (*President*),
Vice-Chairman, Imperial Council of Agricultural Research,
Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E., (*Vice-President*),
Representative of the East India Cotton Association, Bombay,
B. C. Burt, Esq., C.I.E., M.B.E., I.A.S., Agricultural Expert,
Imperial Council of Agricultural Research, (*ex-officio*),
S. V. Ramamurty, Esq., I.C.S., Director of Agriculture, Representative of the Agricultural Department, Madras Presidency,
B. S. Patel, Esq., I.A.S., Officiating Director of Agriculture, Representative of the Agricultural Department, Bombay Presidency,
R. G. Allan, Esq., I.A.S., Director of Agriculture, Representative of the Agricultural Department, United Provinces,
H. R. Stewart, Esq., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Punjab,
S. D. Saklatvala, Esq., M.L.C., Representative of the Bombay Millowners' Association,
H. B. Moore, Esq., Representative of the Bombay Chamber of Commerce,
Chunilal B. Mehta, Esq., Representative of the Indian Merchants' Chamber, Bombay,
G. C. R. Coleridge, Esq., Representative of the Karachi Chamber of Commerce,
Seth Sakarlal Balabhai, M.L.C., Representative of the Ahmedabad Millowners' Association,
J. Vonesch, Esq., Representative of the Tuticorin Chamber of Commerce,
E. J. W. Plummer, Esq., Representative of the Upper India Chamber of Commerce,
W. Roberts, Esq., C.I.E., Representative of the Empire Cotton Growing Corporation,
Y. G. Deshpande, Esq., Commercial Representative, Central Provinces,
Rao Bahadur G. R. Kothare, M.L.C., Commercial Representative, Central Provinces,
Khan Bahadur Sardar Habibullah, M.L.C., Commercial Representative, Punjab.

- Akhil Bandhu Guha, Esq., Commercial Representative, Bengal,
 M. R. Ry. K. Sarabha Reddi Garu, Representative of cotton growers,
 Madras,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of cotton growers, Bombay Presidency,
 Rao Bahadur C. S. Shirahatti, Representative of cotton growers, Bombay Presidency,
 Khan Bahadur Shah Nazar Husain, M.L.C., Representative of cotton growers, United Provinces,
 Sardar Sampuran Singh, M.L.C., Representative of cotton growers, Punjab,
 Mian Nurullah, M.L.C., Representative of cotton growers, Punjab,
 N. M. Deshmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
 J. B. Deshmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
 Nizam-ud Din Hyder, Esq., Director of Agriculture, Representative of the Hyderabad State,
 C. V. Sane, Esq., Director of Agriculture, Representative of the Baroda State,
 H. H. Pandya, Esq., Director of Agriculture, Representative of the Gwalior State,
 F. K. Jackson, Esq., Director, Institute of Plant Industry, Indore, Representative of Rajputana and Central India States,
 D. N. Mahta, Esq., Economic Botanist for Cotton, Central Provinces,
 S. S. Salimath, Esq., Deputy Director of Agriculture, Southern Division, Dharwar,
 M. R. Ry. V. Ramanatha Ayyar, Avargal, Cotton Specialist, Coimbatore,
 Musahib-i-Khas Bahadur S. V. Kanungo, Finance Minister, Representative of the Indore State,
 Seth Isserdas Varindmal, Representative of the Indian Merchants' Association, Karachi,
 P. B. Richards, Esq., I.A.S., Entomologist to Government, United Provinces,
 Khan Bahadur Nawab Fazl-i-Ali Khan, Chairman, District Board and President, Central Co-operative Bank, Ltd., Gujrat, Punjab,
 Khan Saheb Farrukhbeg Sadikalibeg Mirza, Nawabshah, Sind,
 Chellaram Shewaram, Esq., Representative of the Karachi Cotton Association, Ltd.,
 The Secretary (P. H. Rama Reddi, Esq., I.A.S.),
 The Director, Technological Laboratory (Dr. Nazir Ahmad), and
 The Publicity Officer (R. D. Mihra, Esq.).

By invitation.

H. C. Short, Esq., Commissioner in India, Lancashire Indian Cotton Committee,

D. R. Sethi, Esq., Director of Agriculture, Bihar and Orissa,

P. M. Joseph, Esq., Deputy Director of Statistics, Department of Commercial Intelligence and Statistics, Calcutta,

Dr. V. K. Badami, Economic Botanist in Mysore, Bangalore,

J. B. Hutchinson, Esq., Geneticist and Botanist, Institute of Plant Industry, Indore,

R. G. Saraiya, Esq., C/o Messrs. Narandas Rajaram & Co., Bombay,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Mohammad Afzal, Esq., Cotton Research Botanist, Lyallpur, and

G. R. Ambekar, Esq., Provincial Officer in charge, Cotton Forecast Improvement Scheme, Bombay.

Letters and telegrams were received from the following members regretting their inability to attend the meetings:—

J. H. Ritchie, Esq., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Central Provinces,

F. D. Odell, Esq., I.A.S., Deputy Director of Agriculture, Representative of the Agricultural Department, Burma,

The Director General of Commercial Intelligence and Statistics, Calcutta,

J. Nuttall, Esq., Commercial Representative, Madras,

Rao Bahadur M. G. Deshpande, C.B.E., Co-operative Banking Representative,

K. S. Ramaswami Gownder, Esq., Representative of cotton growers, Madras,

Rai Bahadur Lala Anand Sarup, M.L.C., Representative of cotton growers, United Provinces,

W. J. Jenkins, Esq., I.A.S., Chief Agricultural Officer in Sind, and

Lala Shri Ram, Representative of the Cotton Millowners of Delhi.

President's Speech.

Gentlemen,

I have great pleasure in welcoming you to this the 30th meeting of the Indian Central Cotton Committee. At our last meeting, you will remember, we decided to hold this cold weather meeting at Lyallpur, but as the best time for seeing cotton work in progress in the Punjab is November, and as for several reasons it was not possible to call a meeting in that month, your Finance Sub-Committee wisely resolved to abandon the idea of having the meeting at Lyallpur. The matter, however, has not been shelved and it will be considered again at our next meeting.

The new members to whom we extend a welcome are Mr. G. C. R. Coleridge who takes the place of Mr. F. G. Travers, Khan Bahadur Shah Nazar Husain who replaces Khan Bahadur Maulvi Mohammad Obaidur Rahman Khan, Mr. Chellaram Shewaram who, on our recommendation, has been appointed by the Governor General in Council as the representative of the Karachi Cotton Association and Mr. B. S. Patel who officiates as Director of Agriculture, Bombay, in the absence on leave of Dr. W. Burns.

I must also add a word of hearty welcome to Mr. H. C. Short who, at one time, was a member of this Committee and is now back in this country on behalf of the Lancashire Indian Cotton Committee as Cotton Commissioner for India. As a liaison officer between the general raw cotton interests in India and the Lancashire Committee he has already toured over some of the cotton tracts of India and I trust he has been impressed with the work in progress for the improvement of the cotton crop, in the tracts so far visited. I am looking forward to close co-operation between him and our Committee.

Besides the usual budgets with which our cold weather meetings are associated, we have several interesting subjects on our agenda. The Manchester International Federation of Master Cotton Spinners' and Manufacturers' Associations have approached us with a request for a reversion to the original system of marking bales by punching the press marks on the hoops. It appears that at some Continental Cotton Exchanges, in the process of sampling, portions of the hessian coverings of bales are cut out and with them sometimes also the press marks. In consequence, in cases of complaint, such bales cannot be traced back to the factories at which they were pressed. I shall not anticipate discussion on the subject but I may remark that the original rule requiring press marks to be punched on the hoops was amended at the express request of the cotton trade in India as, owing to the meticulous procedure prescribed, bales which, in other respects, were a fair tender, could be rejected for trifling irregularities in marking whenever merchants found it to their advantage to do so.

The mixing of different varieties of cotton which forms the subject of a complaint from the Lancashire Indian Cotton Committee is a question that has long been engaging our attention and the only remedy which we have been able to suggest so far is legislation for the licensing of gins and presses. Such legislation would provide for the withdrawal or suspension of the licenses of presses found guilty of malpractices such as mixing, watering or false packing.

At our last meeting we had before us the report of the Special Meeting of the Agricultural Research Sub-Committee on the agricultural and other research schemes of the Committee, but after a short discussion its consideration was deferred to this meeting to give members sufficient time to study the report and express their views on it. The report is accordingly once again on our Agenda.

Under subject 8 of the Agenda you will be called upon to take an important decision on the question of maintaining a minimum balance.

from the accumulated funds of the Committee which has been referred to us by the Government of India. As some of you may recollect, in 1926 the Committee was decidedly against such a course, but conditions have changed materially since then and as, owing to the large number of schemes in operation, our annual expenditure has in recent years been steadily exceeding our income and diminishing our reserves, a reconsideration of the position at this stage seems desirable. Our Finance Sub-Committee has already taken a lead in the matter and suggested a minimum balance of Rs. 9 lakhs.

From the Report of the Cotton Forecast Improvement Sub-Committee you will see that the problem of improvement of the accuracy of cotton forecasts is being tackled in right earnest by this Sub-Committee. All possible sources of information which would throw more light on this subject are being tapped. It is particularly gratifying to note that our efforts to ascertain the carry-over of cotton from season to season, and the village or extra factory consumption of cotton seem likely to be successful. I hope that as a result of the increasing amount of data relating to production and distribution of cotton now being made available to the forecasting authorities, and the efforts made by them to detect sources of error and to remedy them, our forecasts will approximate nearer to accuracy.

You have also before you the report of the Special Sub-Committee appointed by you to consider the question of a wider market for Indian cotton. This Sub-Committee has already formulated certain recommendations regarding the tariff, exchange and other restrictions operating in foreign countries against the increased consumption of Indian cotton. I wish particularly to draw your attention to Sir Richard Jackson's proposal regarding Australia referred to in the report. Though the prospect of an assured market in Australia for 10 to 12 thousand bales of Indian short-staple cotton is not relatively a very great matter for India, yet it shows how with good will and ingenuity the different parts of the Empire could, with mutual benefit, re-arrange the distribution of raw material between them according to the differing needs of their manufacturing industries.

Your Agricultural and Technological Research Sub-Committees have with their usual thoroughness examined the various subjects falling within their purview and their recommendations are now before you for consideration.

The report of the Standing Finance Sub-Committee once again furnishes evidence of the careful way in which the financial aspect of the Committee's activities has been looked after since we last met. It is an excellent record of useful work done and I am sure you will all join me in expressing our genuine gratitude to the members of this body who have given so freely and ungrudgingly of their time and thought to the work of the Committee.

Gentlemen, I shall not detain you any longer from the work before you.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the 29th meeting were confirmed.

SUBJECT 3.—*Retirement of members by rotation.*

The Secretary's note was recorded.

SUBJECT 4.—*Appointment of Vice-President and Sub-Committees.*

Mr. Saklatvala in moving the following resolution

RESOLUTION 1.—"That Sir Purshotamdas Thakurdas be re-elected Vice-President for the year 1935-36"

referred to the valuable work of Sir Purshotamdas Thakurdas as a member of the Committee and more particularly as Vice-President, and expressed his conviction that this fact would commend his re-election. *Sardar Rao Bahadur Bhimbhai R. Naik* seconded the resolution. The President said that he had very great difficulty in persuading Sir Purshotamdas Thakurdas to agree to his re-election. He felt that to ensure the continuity of work it was necessary that the Committee should have Sir Purshotamdas Thakurdas again as its Vice-President. In spite of the many calls on his time Sir Purshotamdas had agreed to serve for another term and the Committee was to be congratulated on having obtained his consent.

The resolution was carried unanimously.

By *Resolution 2* the following members were appointed to form the Standing Finance Sub-Committee for the financial year 1935-36 :—

Dewan Bahadur Sir T. Vijayaraghavacharya (*ex-officio*), Sir Purshotamdas Thakurdas, Messrs. S. D. Saklatvala, J. Vonesch, Chunilal B. Mehta, G. C. R. Coleridge and H. B. Moore, Rao Bahadur G. R. Kothare and Sardar Rao Bahadur Bhimbhai Ranchodji Naik.

By *Resolution 3* the following members were appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

Sir Purshotamdas Thakurdas, Messrs. S. D. Saklatvala, H. B. Moore, J. Vonesch, Chunilal B. Mehta, G. C. R. Coleridge, J. Nuttall, W. Roberts, E. J. W. Plummer and Y. G. Deshpande, the Co-operative Representative (Rao Bahadur M. G. Deshpande), and Mr. Chellaram Shevaram (co-opted member).

By *Resolution 4* the following members were appointed to compose the Local Sub-Committee :—

Dewan Bahadur Sir T. Vijayaraghavacharya, Sir Purshotamdas Thakurdas, Messrs. S. D. Saklatvala, J. Vonesch, H. B. Moore, Chunilal B. Mehta and G. C. R. Coleridge, Sardar Rao Bahadur Bhimbhai Ranchodji Naik and Rao Bahadur G. R. Kothare.

By *Resolution 5* the following members were appointed to form the Agricultural Research Sub-Committee :—

Ex-officio members.—The President (Dewan Bahadur Sir T. Vijayaraghavacharya); the Vice-President (Sir Purshotamdas Thakurdas);

the Director, Institute of Plant Industry, Indore (Mr. F. K. Jackson); *the Co-operative Representative* (Rao Bahadur M. G. Deshpande); *Cotton Growers' Representative* (Mr. W. Roberts); *Cotton Trade Representative* (Mr. H. B. Moore); *Agricultural Officers* :—Messrs. B. S. Patel, J. H. Ritchie, H. R. Stewart and V. Ramanatha Ayyar; *Additional members* :—Messrs. B. C. Burt, R. G. Allan, W. J. Jenkins, S. V. Ramamurty, D. N. Mahta, P. B. Richards, C. V. Sane, Chunilal B. Mehta, Nizam-ud Din Hyder and H. H. Pandya; *co-opted members* :—Rai Saheb Kalidas Sawhney, Messrs. Mohammad Afzal and J. B. Hutchinson, and the Secretary.

By *Resolution 6* the following members formed the Technological Research Sub-Committee :—

The President (*ex-officio*), Sir Purshotamdas Thakurdas, Messrs. S. D. Saklatvala, H. B. Moore, B. C. Burt, B. S. Patel, H. R. Stewart, Chunilal B. Mehta, Y. G. Deshpande, S. V. Ramamurty and E. J. W. Plummer, Seth Sakarlal Balabhai, Lala Shri Ram and Dr. Nazir Ahmad; *co-opted members* :—Two representatives each from the Bombay Millowners' Association, the Ahmedabad Millowners' Association and the East India Cotton Association, and one representative from the Karachi Cotton Association.

By *Resolution 7* the Research Students Selection Sub-Committee was composed of the following members :—

The President, the Vice-President, Messrs. B. C. Burt, B. S. Patel, P. B. Richards, H. R. Stewart, J. H. Ritchie, S. V. Ramamurty, W. J. Jenkins, F. K. Jackson, C. V. Sane, H. H. Pandya, R. G. Allan and Nizam-ud Din Hyder, Dr. Nazir Ahmad and the Mysore representative.

By *Resolution 8* the Sub-Committee on Malpractices was composed of the following members :—

Sir Purshotamdas Thakurdas, Messrs. H. B. Moore, B. S. Patel, Chunilal B. Mehta, Sakarlal Balabhai and G. C. R. Coleridge, Sardar Sampuran Singh, Seth Isserdas Varindmal, with power to co-opt.

By *Resolution 9* the Cotton Forecast Improvement Sub-Committee was composed of the following members :—

The President, the Director General of Commercial Intelligence and Statistics, the Directors of Agriculture, Bombay Presidency, Punjab, Madras, United Provinces and Baroda, the Director of Statistics, H. E. H. the Nizam's Government, the Director of Land Records, Central Provinces and Berar, the Chief Agricultural Officer in Sind and the Deputy Director of Statistics.

By *Resolution 10* the Special Sub-Committee to consider the question of a wider market for Indian cotton was composed as follows :—

The President, the Vice-President, Messrs. B. C. Burt, H. R. Stewart, J. H. Ritchie, B. S. Patel, W. J. Jenkins, Nizam-ud Din Hyder, S. D. Saklatvala, J. Vonesh, Chunilal B. Mehta, Y. G. Deshpande, R. G. Allan and S. V. Ramamurty, Khan Bahadur Sardar Habibullah, Sardar Rao Bahadur Bhimbhai Ranchodji Naik; Messrs. Kasturbhai Lalbhai and R. G. Saraiya, (co-opted).

SUBJECT 5.—*Half-yearly report* of the Publicity and Propaganda Officer.*

In moving the following resolution :—

RESOLUTION 11.—“**That the half-yearly report of the Publicity and Propaganda Officer be adopted**”

the *Vice-President* said that he had no doubt that the popularity of the Publicity Officer was increasing as a result of his activities and that from what he understood, the Publicity Officer's recent work in the United Provinces had received the approval of the officials there. *Mr. D. N. Mahta* seconded the resolution. *Rao Bahadur C. S. Shirahatti* expressing appreciation of the work of the Publicity Officer which, in his opinion, was becoming increasingly popular, said that the propaganda work undertaken by him in the United Provinces was likely to put more money into the pocket of the cultivator. He also referred to the valuable help rendered by the Publicity Officer to the Hubli Cotton Sale Society in its efforts to spread *Jayawant* cotton in preference to the local *Kumpta* in the Dharwar District. *Jayawant* covered during the year over two lakhs of acres and yielded an increase in lint of about 4,000 bales and the quality of the cotton had been appreciated by several mills. *Seth Isserdas Varindmal* said that the work of the Publicity Officer was much appreciated in Sind and that as a result of his propaganda there was an increased demand from Lancashire for Indian cotton. Karachi, in his opinion, was shipping three-fourths of the Lancashire requirements of Indian cotton. *Rao Bahadur G. R. Kothare*, associating himself with the remarks of the previous speakers, congratulated the Central Cotton Committee in securing the services of Mr. Mihra as its Publicity Officer who carried home to the cultivators the results of research work and said that unless the propaganda of this sort was carried on the money spent by the Committee would be a waste. *Khan Bahadur Shah Nazar Husain* said that the Publicity Officer was doing good propaganda work in the United Provinces where the cotton growers suffered great losses from the Pink Boll-worm. The Agricultural Department had also taken great pains to improve the cotton of the tract and this jointly with the propaganda work of the Publicity Officer would benefit the cultivator in the United Provinces. *Mr. Y. G. Deshpande*, endorsing the statements of the preceding speakers, complained that much of the Publicity Officer's time was taken up with work in the United Provinces and the Punjab. He suggested that the Publicity Officer should spend some time in the Central Provinces also.

The resolution was carried.

SUBJECT 6.—*System† of marking bales—Reference from the International Federation of Master Cotton Spinners' and Manufacturers' Associations.*

Mr. Burt said that the original method of marking bales had been very satisfactory and served the object which marking of bales was

* Appendix I (page 57).

† Appendix II (page 59).

meant to serve. But it had to be given up on account of the trouble caused by it to the trade of Bombay. If, as stated in the complaint before the Committee, marks on hessians were torn off, and the object of marking bales was thereby defeated he suggested that more information about the real inconvenience caused by the original method might be called for and the Local Sub-Committee might be asked to re-examine the question of the method of marking bales with reference to the suggestion before the Committee as well as to the possibility of using, in addition or alone, other permanent marks such as metal tags. He further suggested that steps should be taken, in consultation with the Bombay and Ahmedabad Millowners' Associations, to ensure India being suitably represented at the International Cotton Congresses and meetings of the International Committee. At present the Indian case, to a very large extent, went by default at these Congresses. The consequence was that a one-sided discussion of minor faults in Indian cottons gained wide publicity all the world over and created a lot of misunderstanding. Very naturally, great prominence was given to the Federation's proceedings in the press of the World and it was desirable that India should in future be represented by properly instructed delegates.

The Vice-President agreed with Mr. Burt that the Indian cotton trade should be adequately represented at the International Cotton Congresses. As regards the Federation's complaint, it appeared to him that, because India had done something in this direction on her own responsibility, organisations like the International Federation wanted India to go still further in the same direction. There was no justification in such a demand so long as the other cotton-supplying countries like America, etc., had not adopted any system of marking bales, and the buyer was not in a position to trace bales to the presses in those countries by means of press marks. He was definitely against introducing in India any measures more stringent than those adopted by other countries. Assuring the Committee that the trade had done extraordinarily well in making the system of marking bales a success, in spite of its many disadvantages to the trade, he opined that the East India Cotton Association would not think of doing anything more in this matter until the trade had been adequately represented on the Federation. As had been pointed out by Mr. Burt, often those who represented India at these Congresses were out of touch with India. It was therefore imperative that in future India should have a couple of representatives who can deal with such questions on the spot instead of allowing press propaganda to cause harm to Indian cotton. To this extent he supported Mr. Burt's proposals.

Mr. Coleridge, in supporting the Vice-President's suggestion, said that in his office there was a museum of some of the most extraordinary things such as an iron bar of 30 lbs., nails, large lumps of wood, match boxes, etc., found in American bales. As to the method of marking bales, he objected to reverting to stamping on hoops as what India till now had done was much more than what any other country in the world had done.

Mr. Saklatvala remarked that his experience of American cotton was exactly the same as that of Mr. Coleridge and that rarely was a lot free from rubbish. The variation in loss percentage and class was also greater in American cotton than in Indian, and but for the comparative cheapness of American cotton he would not take it. The only remedy against this was arbitration, and nothing more. Why should then, he asked, Indian cotton alone be differently treated and traced to its source? He said that as the Bombay Millowners' Association of late had not been represented at the Congresses, it would be a distinct advantage to Indian cotton, if hereafter the Committee could arrange to send its representatives.

Mr. Roberts thought that the present complaint from the federation was not the outcome of any casual remark made at its meeting, but of a written representation made to it. When some years ago he attended a Congress this subject was raised in discussion in a general way and he then pointed out that bales could be traced to their sources by means of the marks on them. That statement was welcomed by the Congress. He fully agreed with the suggestion that, as a matter of policy, India should be represented at these Congresses by those who were in close touch with India. Such a step would lead to the improvement of the world market for Indian cotton.

The Vice-President was not opposed to any bale being traced to its source, but he did not like the suggestion that, because one or a few bales were found to have the marks on them accidentally torn off or obliterated, India should revert to the system of stamping marks on hoops.

Rao Bahadur G. R. Kothare opposed the suggestion to revert to the old system of punching marks on the hoops, on the ground that of late factory owners had become fully conscious of the harm done to the reputation of Indian cotton by such malpractices as mixing, and had considerably checked these practices, i.e., in the Central Provinces and Berar. There was no justification whatever, in his opinion, for making this legislation more inconvenient to factory owners.

Mr. Chellaram Shewaram was also opposed to the suggestion of the International Federation being adopted. He did not see any justification in the proposal.

Seth Isserdas Varindmal pointed out that Indian shippers were as keen as anybody else in obtaining a good name and good prices for their cotton, and that every care was therefore taken in ginning and pressing to keep up quality and not to get seed mixed up. He had been able to sell without any complaint some 60,000 bales of 50 to 70 per cent. mixture of American cotton. When bales were false packed, the buyers invoiced them back and secured substantial allowances. As bales not marked in accordance with the law in force could be rejected as "not a fair tender," he saw no need whatever for creating greater difficulties by adopting Mr. Burt's proposal.

Mr. Chunilal B. Mehta thought that the real crux of the situation was that India was not adequately represented on the International Federation. The Federation was not conversant with Indian conditions and expected more and more from India. It was therefore necessary that the Committee should send one or two representatives to the Cotton Congresses. Further, considering India's status as a large consuming country and the second largest cotton producing country in the world, it was time that the Federation be invited to hold one of its Congresses in India.

Mr. Vonesch did not understand how the marks put on the flat side of a bale could disappear accidentally, unless they were intentionally removed. He opposed the reversion to the old system of marking bales.

Regarding representation on the Federation, the Vice-President said that this body being a federation of millowners' associations, it was very unlikely that the Indian Central Cotton Committee would get direct representation on it and that the Committee also could not very well agree to leave these matters of cotton marketing entirely in the hands of the Indian millowners' spokesmen. The Federation might, however, usefully refer questions affecting marking, etc., to this Committee before any decision was taken on them. Such a procedure would avoid all misapprehensions and misunderstandings. As to *Mr. Burt's* proposal that the Federation might be asked to invite a representative from the Committee, he said that the Committee might pursue this point further, if thought suitable. On his part, he would like to have either direct representation for the Committee on the Federation or previous consultation with the Committee by the Federation on matters affecting Indian cotton. The question of direct representation, he thought, might be taken up demi-officially.

Supporting the suggestion of the Vice-President in regard to representation, *Mr. Burt* said that his experience had been that the executive of the International Federation was anxious to get representatives of all countries for its Congress and Committee meetings. The Committee might therefore inform the Federation that it would be glad to assist the Federation in obtaining a representative of India whenever any matters of this kind come up for discussion.

The *President* thereupon proposed the following resolution and added that the question of representation on the Federation might be left to the Standing Finance Sub-Committee to be settled in consultation with other local bodies.

RESOLUTION 12.—"That the International Federation of Master Cotton Spinners' and Manufacturers' Associations be informed that the rule was amended at the request of the Committee on the representation of the East India Cotton Association who drew attention to cases of hardships and losses incurred by Bombay merchants because of bales being rejected in arbitration for faults in marking. The chief complaint was that the method of marking as laid down in the original rule was so meticulous that the East India Cotton Association arbitrators had no option but to

reject any bales not marked strictly in accordance with the rule though the cotton was in all other respects a fair tender and even at times carrying an "on" allowance. Under the circumstances, the Indian Central Cotton Committee regrets it is unable to revert to the original rule."

The resolution was seconded by the *Vice-President* and carried unanimously.

SUBJECT 7.—*Mixing* of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee.*

In opening the discussion *Mr. Saklatvala* said that the Bombay Government had asked the Bombay Millowners' Association for their opinion on the subject of amending the Cotton Ginning and Pressing Factories Act to provide for the licensing of gins and presses and that the Association had replied that legislation by the Government of India was preferable. The problem of mixing was becoming daily more urgent and if the enactment of legislation was left to Local Governments considerable delay would result. He therefore thought that the Committee should ask the Government of India to have an all-India legislation as this would achieve the object in view more quickly.

Mr. Mahta said that he thought that the Committee would perhaps like to know that the subject of mixing and watering of cotton had been recently discussed by the Central Provinces Provincial Cotton Committee at its last meeting held in September 1934. The general opinion of that body was that a permissive clause should be introduced in the Cotton Ginning and Pressing Factories Act so as to enable a Local Government to legislate against this malpractice and a resolution was passed strongly urging the introduction of legislation. He was authorised by the Director of Agriculture to say that this resolution was engaging the serious attention of the Central Provinces Government who had already strongly recommended to the Government of India for an early action in the matter.

Mr. Stewart drew attention to a sentence appearing in the letter from a spinner stating that he could not find a shipper of standing who would sell saw ginned American cotton under a guarantee of purity and said that that statement should not be accepted without further enlightenment. He was convinced that there were in India large shippers who were perfectly willing to ship pure cotton under a guarantee of purity which could not be questioned, provided it was profitable for them to do so. If the spinner in question had not been able to get pure cotton he probably was not prepared to pay the price for it.

Mr. Coleridge disagreed with the letter received from the Lancashire Indian Cotton Committee as it seemed to hold the view that India was responsible for the sale of mixed Punjab-American cotton. Last year was probably the most favourable year for selling Punjab-American. There was a bumper crop of Punjab-American and the British Cotton Growing Association, Punjab, had grown a record crop, their pure 4F

selling as low as Rs. 7 'on' Broach. His firm shipped altogether to Liverpool about 40,000 bales of Punjab-American of which about 10 per cent. was pure. Their agents in Lancashire were of first class standing who had entry to all mills and they knew perfectly well which types were pure and which were mixed. The availability of these stocks were at the time brought to the notice of spinners, but yet in spite of all their efforts they could not sell more than 10 per cent. of the pure cotton to Lancashire. This year his firm had not succeeded in selling a single bale of pure Punjab-American to Lancashire. Punjab-American cotton ten days ago was selling at Rs. 50 'on' Broach and at that price it was dearer than Middling American in Liverpool and it was therefore not an economical purchase for Lancashire. Sir Richard Jackson had said in his letter that so long as the present parity with American cotton continued in favour of Indian cotton there was a practically unlimited demand for it. The whole secret of this problem lay in that one word 'parity'. When Indian cotton is cheaper than any other cotton Lancashire is a free buyer but if it is dearer Lancashire would not go out of her way to buy it. Lancashire spinners were no better than the Bombay millowners in this respect. Last year Lancashire took more pure cotton than in any previous year but his firm found it easier to sell mixed cotton. With regard to the statement in the letter from Sir Richard Jackson that mixed Punjab-American should not be sold to Lancashire because it competed with *Oomras* and other short staple cottons of which India had a surplus, he said that the Continental Agents of his firm had written last year that the reasons which had prompted them to purchase mixed Punjab-American was that it was cheaper than Central Provinces and that at that price Continental mills approved of it. He had no doubt whatever that there was a very large demand for mixed Punjab-American in Europe and he believed that the demand for this cotton was even more in Japan. He was in favour of the proposal for the licensing of gins and presses but he was not sure if such legislation would stop the mixing of Punjab-American. He thought that this could best be done by passing a law like the one in Egypt where it was illegal to ship mixed cotton except with the mark "mixed" on the bales. Any first class shipper would sell pure Punjab-American to Lancashire and would put it in his contract that the cotton was pure with the exception of the natural mixture in the field of possibly 5 per cent. only. Mr. Roberts sold to his firm thousands of bales of pure Punjab-American cotton every year and his firm gave a guarantee to every mill in India. If, therefore, any Lancashire spinner wanted pure cotton he could have it if he would pay the price for it. He further pointed out that if the law for licensing gins and presses were passed, the Punjab-American crop would be reduced in quantity straightaway and he questioned the desirability of thus reducing very materially the crop of Punjab-American which was now in the neighbourhood of 4 lakhs of bales. If it was hoped to sell this cotton at Rs. 50 to Rs. 60 'on' Broach, it was hardly possible to export any appreciable quantity of it. It was also uncertain whether Indian mills could consume the whole of the Punjab-American crop if grown pure. The result would

be that the value of the 4 lakhs bales, when grown pure, would drop to the price at which it could be exported. It was all very well to say that mixing of Punjab-American should be stopped, but before making any recommendations against mixing the Committee should seriously consider whether such action was in the interest of the cultivator in the long run.

Mr. Saklatvala agreed that if Punjab-American were sold pure, it would fetch a very good price from the millowners in India.

Mr. Vonesch, supporting *Mr. Coleridge*, said that Lancashire spinners could get pure cotton if they were willing to pay the price. His firm also sold pure cotton to Indian mills and no complaints were received. It was not possible for a seller to force pure cotton upon a buyer who did not want it or who could not afford to pay the price. Japan, for instance, bought only mixed cotton, knowing it was mixed. Lancashire could purchase pure cotton, but it was doubtful whether they would pay the price because they could usually get similar cotton cheaper elsewhere. It must not be overlooked that foreign cottons pay an Import Duty of Rs. 25 per candy the effect of which is an appreciation in the price of all Indian staple cottons which are consumed by the Indian mills.

Mr. Roberts said that he had always been opposed to legislation to stop mixing but that the position in the Punjab was so serious, especially this year, that he felt it advisable that the Committee should press very strongly for the licensing of gins and presses. As such legislation, to be successful, had to be worked by Local Governments, he considered that an enabling clause should be introduced in the Cotton Ginning and Pressing Factories Act and that later pressure should be brought to bear on Local Governments to bring this enabling clause into effect. He endorsed the views of *Mr. Coleridge* and *Mr. Vonesch* regarding the possibility of Lancashire getting pure cotton provided she paid the price.

The Vice-President said that the remarks of the previous speakers presented a new aspect of the case. It was definitely stated that the real demand for mixed Punjab-American cotton came from abroad whereas the Indian demand was for pure cotton and mills in India were prepared to pay the price for it. He therefore wished to know the grounds on which *Mr. Coleridge* supported the proposal for legislation. He agreed that if legislation was enacted and it was really effective, the quantity of Punjab-American cotton would be considerably reduced. The pure cotton would sell at a higher price, but a market would have to be found for the short staple cotton. For the last two years India had had the greatest difficulty in marketing her short staple cotton and though he would very much like all the produce of India to be marketed pure, the question where the short staple cotton was going to be marketed had to be considered. The danger, too, that Lancashire would buy Indian cotton only at a favourable parity should not be overlooked. He therefore deprecated hasty legislation based on sentiment or partial information. Opinion was also divided whether such legislation should be permissive or mandatory.

As regards the administrative difficulties which would arise if legislation were passed, he reminded members of the happenings under the Cotton Frauds Act which was enacted during the American War on the pretext that Lancashire wanted pure cotton. An army of underpaid subordinate officials was appointed to control the various gins and presses and so scandalous was the treatment of the trade by these officials that every cotton firm, whether English or Indian, had to cry hoarse for a period of four or five years to get the law repealed. He considered that an absence of demand would serve as a check on mixing but as this demand came from abroad and not from India, it conclusively proved that the guilt for mixing lay with the foreign demand. Those therefore who now complained should first put their house in order and middlemen would then only handle those cottons which were required for trading purposes. He could not also, as representing the trade, be a party to legislation which would give rise to the administrative difficulties mentioned by him. The question of bringing Indian States into line had also to be considered. They were Sovereign States and no Provincial or all-India legislation could be enforced on them. The difficulty in dealing with the States had already been experienced in getting them to take action in connection with the Cotton Ginning and Pressing Factories Act.

Mr. Coleridge in reply to the Vice-President's query said that he supported legislation for the licensing of gins and presses because he thought it would be in the interests of the grower in other respects; when gins and presses were licensed watering and other malpractices could be stopped by either refusing, if necessary, or withdrawing licenses. In the case of mixing, however, an army of very highly paid officials would be required to sit in every gin and watch every bale. He was also not convinced that the stoppage of the mixing of Punjab-American cotton was in the interests of all concerned and in particular of the grower.

The Vice-President agreed with *Mr. Coleridge* that legislation for licensing gins and presses would not effectively stop mixing but that it might stop the malpractice of watering if details were thoughtfully worked out. He would however not be sure about it unless great care was taken in devising necessary action.

Sardar Sampuran Singh said that from the present discussion it appeared to him that the Committee had recommended legislation under a wrong impression. The Committee had been of opinion that there was a demand for pure Punjab-American cotton and that if it succeeded in marketing pure cotton, the cultivator would get a good price for it. He was now convinced that there was no demand for pure Punjab-American cotton from abroad, and therefore any steps to legislate in order to get Punjab-American ginned and baled pure would not bring the cultivator that profit which the Committee had expected. It was certain also that American cotton mixed with *desi* fetched a better price than pure American cotton. *Mr. Coleridge* had made it very clear that Lancashire would not buy pure Punjab-American except at a favourable price. He therefore felt compelled to urge the withdrawal of the Committee's

previous resolutions for the licensing of ginning and pressing factories in so far as they related to the mixing of cotton.

Rao Bahadur Kothare, recalling the representations he had made on more than one occasion in the past about the difficulties of factory-owners if legislation for the licensing of ginning and pressing factories were enacted, said that as the problem of mixing mainly concerned the Punjab and Sind, there was no case whatever for an all-India legislation. He wished to know why it was proposed to penalise the factory-owner although he had no hand in the mixing of inferior with superior cotton. This practice was resorted to by the cultivator himself and the factory-owner could not be expected to separate all these different cottons and to press them pure. The duty of the factory-owner was to gin and press cotton in the manner it was brought to him, and he should not therefore be penalised for the sins of the cultivator.

Seth Isserdas Varindmal said that Sind and the Punjab produced about 6 lakhs of Punjab-American cotton and that the Lancashire demand was not more than 2 lakhs though it might be more in the future. The remaining 4 lakhs were mostly bought by Indian mills in a pure state and they paid a price of even Rs. 2-8-0 or Rs. 3 more per *maund* or Rs. 30 per *khandi*. The same cotton when offered to shippers even at a few annas less was refused as they could not get that price from foreign countries. Shippers wanted 20 or 30 per cent. mixed cotton for shipping abroad, and if the quantity of *desi* cotton in the Punjab was insufficient, inferior cotton was brought from outside and mixed. The factory-owners were thus only meeting the demand of shippers. In addition the administrative difficulties mentioned by the Vice-President required very careful consideration as Government Officers were likely to harass the factory owners.

In reply to a question by the Vice-President, *Mr. Stewart* said that he was not aware that cotton was imported into the Punjab from the United Provinces for the purpose of mixing.

Mr. Allan said that a certain amount of cotton went to Delhi for mixing, but he could not say whether it was exported to the Punjab.

Seth Isserdas Varindmal said that cotton was brought from Aligarh to Okara and mixed with Punjab-American in the proportion of 50 to 50.

The Vice-President said that if cotton was imported from Aligarh for mixing, there should be some legislation in the Punjab on the lines of the Cotton Transport Act to prevent the import of this cotton.

Mr. Roberts said that he was not certain that United Provinces cotton was being imported into the Punjab but he knew that cotton came in from Delhi.

Seth Isserdas Varindmal said that inferior cotton was brought from the eastern side to the northern side of the Punjab where it was mixed with Punjab-American because of the demand for such mixture; Punjab-American got a better price when mixed with *desi* and mixing was, therefore, advantageous both to the grower and the buyer. Japan

purchased usually *Oomras* but when the price of this cotton went up she preferred to purchase mixed Punjab-American.

Mr. H. C. Short said that there were about 730 mills in Lancashire and very many of them had not had the opportunity of trying pure unmixed Punjab-American. If only merchants would send them really pure unmixed cotton, so that they could find out its real merits, the demand for the cotton would be much greater and Lancashire would be willing to pay the price provided that it was on a parity with Americans.

In Bombay, Punjab-American can be bought with a certain percentage of *desi* mixed, marked on the contract and the buyer then knows what he was getting. It was not sold with this clause in the contract in Lancashire and buyers often thought that they were buying pure cotton when it was actually mixed.

He had a report from a mill in Lancashire who bought 300 bales Punjab-American guaranteed pure and they said that the cotton was worth the extra price as the waste loss was much less and the strength of the yarn was up by 30 per cent.

It was very difficult to tell whether the cotton was mixed or not by simply using the fingers. It was very often not found out until the cotton was put through the machinery of the mill.

Mr. Saklatvala felt surprised at the turn which the discussion had taken and said that the question raised by him was whether the Committee should ask the Government of India to introduce all-India legislation or whether it should propose merely an enabling clause which Provincial Governments would apply if necessary. But without any consideration of the past history of the subject, it was suggested at this meeting that no legislation was needed. The Committee, from its very inception in 1923, had fully recognised that mixing was an evil, which should be stopped to prevent Indian cotton as a whole getting a bad reputation. The only point of difference at the beginning was whether the question should be left to the trade to be solved by itself or the Government should be approached for legislation. His own opinion then was that it should be left to the trade, because he thought that the less Government interfered with matters of this kind the better it was for the trade. The first step taken by the Committee was to approach the Government of India to pass the Cotton Ginning and Pressing Factories Act which was eventually passed. The Committee had recommended an enabling clause in the draft Bill, but the Government of India at that time felt that the Committee was going too fast and they wanted to watch the results of this Act without this clause. The Cotton Transport Act was next introduced to prevent inferior cotton from passing into a tract which grew a superior variety. These two Acts were intended to make factory-owners understand that bales could be traced back to their source. In this manner it was hoped that the evil of mixing could be stopped, but instead of decreasing, the evil had now spread to every province and deliberate mixing was taking place in some of the

ginning factories. This had to be stopped. The argument that all factory-owners were going to be penalised was groundless. When issuing licenses Government would only require in the first place the factory-owners to give a declaration that they would not deliberately mix cotton. Every reputable ginner would respect his own declaration and the few factories which continued mixing deliberately could easily be tackled without the necessity for an army of inspectors. The licensing of gins and presses was merely a logical sequence of the Cotton Ginning and Pressing Factories Act and the Cotton Transport Act. These Acts, contrary to expectations, had not proved successful. Instances had occurred where bales had not been traced back to their sources and also short-staple cotton still went, for mixing, from the United Provinces to the Punjab where the Cotton Transport Act had not yet been applied. It was immaterial whether the Lancashire, Japan or Indian mills were responsible for the mixing as long as this practice gave a bad name to Indian cotton and in the interests of the growers the evil should be put an end to. He had no objection to consider any reasonable alternative proposal to prevent mixing but no such proposal was forthcoming. Lancashire was not likely to offer a better price when she knew that she would probably not get pure cotton. He was therefore strongly of opinion that the Committee should abide by its past resolutions, and that if all-India legislation for licensing gins and presses was not wanted, provincial legislation should be insisted on.

Seth Sakarlal Balabhai, supporting Mr. Saklatvala, said that the demand from abroad for mixed cotton was no reason why the practice of mixing should be encouraged or continued. Spinners in India found great difficulty in getting pure cotton. There was nothing to fear about price if factory-owners ginned and baled their cotton pure and were not allowed mixing.

Mr. Chunilal B. Mehta observed that though the discussion had brought out several interesting points it was not clear whether the evil of mixing or the demand for mixed cotton was increasing. Generally sellers were at the mercy of buyers and if therefore there was a demand for mixed cotton from Japan and other foreign countries it was neither in the interest of the cultivator nor trade to refuse to meet such demand. Indian mills would continue to buy pure cotton which could always be had as at present. He thought that if Punjab-American were not allowed to be mixed with *desi* cotton the price of surplus cotton of both short and long staple varieties was bound to fall considerably, pure short staple cotton for lack of demand from Japan and pure Punjab-American for low prices offered by Lancashire. This would naturally lead to a heavy loss to the Punjab cotton grower and a reduction of the acreage under cotton in the Punjab. He was therefore against legislation to stop the present practice of mixing.

Mr. B. S. Patel was of opinion that originally mixing might not be the result of demand and that cotton arrived at the market mixed irrespective of any marketing conditions. In either case the practice of mixing was harmful. There appeared to be in European countries a demand

for both pure and mixed cotton and if therefore there was a law which provided for the declaration of cotton as mixed or pure, it would not only benefit the buyer but also the cultivator and the practice of mixing would altogether disappear.

Mr. Roberts said that four years ago the North-Western Railway introduced concession rates for long distance transport of *kapas*. While, at that time this concession probably did a certain amount of good, this year it was one of the most potent factors in encouraging mixing. If this concession were withdrawn it would practically discourage mixing. He thought a resolution by the Committee in that sense might do good.

Mr. Vonesch said that there was a regular demand for mixed Punjab-American cotton which competed with *Oomras*. This mixed cotton added to India's supply of short-stapled cotton, but if the trade demand kept pace with the supply no inherent harm was done. What, however, happened was that during the crop-movement period supply of mixed cotton kept ahead of demand and if the latter did not come up to expectations the excess stocks helped to depress the prices of short stapled cottons. In most seasons there existed a big stock of mixed Punjab-American at Karachi which could only be sold in the various export markets. It was, therefore, in direct competition with *Oomras*, another cotton dependent chiefly on export. Any over-supply of mixed Punjab-American had a depressing influence on prices of *Oomras* and it could therefore be said to harm most Indian cultivators. This was an aspect which had not received sufficient consideration so far.

The Vice-President said, that taking into account the Indian cotton as a whole, he could not agree with Mr. Saklatvala, that the practice of mixing had increased though he concurred with him as regards watering. The reason why mixing appeared to have increased was because the problem was being more closely watched and more frequently discussed. If the evil had existed to-day in the same strength as 10 years back the fault lay with the demand. If, however, this demand were diverted, the problem of having to deal separately with staple cotton on the one side and short-staple cotton on the other would arise. He also did not agree with Sardar Sampuran Singh that the old resolutions should be given up and that nothing more should be done. The resolutions of 1933 and 1934 on the subject of mixing were not passed unanimously. The resolution passed last year at the Special Sub-Committee consisting of the Chairmen of the various Cotton Associations and Chambers of Commerce and Millowners' Associations related only to the malpractice of watering, and it did not commit the Committee with regard to mixing. Mr. Saklatvala was of opinion that if gins and presses were licensed, there was no necessity to have an army of inspectors. On the other hand Rao Bahadur Kothare had very great apprehension that the life of the factory-owner would be made miserable. As for himself, though he was prepared to accept Mr. Saklatvala's opinion regarding matters industrial, he would rather give weight in this particular matter to Rao Bahadur Kothare's apprehension. He did not want to be more

affirmative than to ask Mr. Saklatvala to consult his own staff who bought cotton up-country, and he (Mr. Saklatvala) would see for himself that he was coming to a conclusion in a hurry. He did not, however, advocate any hurried conclusion but he thought that the views of the Committee should be communicated to the Lancashire Indian Cotton Committee, so that if these views were wrong they could be corrected. He therefore moved the following resolution :—

RESOLUTION 13.—“ That a copy of this discussion be sent to the Chairman, Lancashire Indian Cotton Committee, with reference to his letter dated the 23rd November 1934, and his reply to the various points, brought out in the discussion, be awaited.”

He further suggested that Mr. Roberts might move a resolution either in this meeting or in the Provincial Cotton Committee requesting Government to urge the North-Western Railway to stop the concession allowed by it for long distance *kapas*, and that also the Director of Agriculture, Punjab, should request the Government of the Punjab to consider the desirability of having a Cotton Transport Act in the Punjab so that outside low grade cotton and *kapas* might not enter the Punjab borders.

Mr. Coleridge, in seconding the resolution, said that he was in favour of the discussion on the subject being sent to the Lancashire Indian Cotton Committee for circulation to their members in order to ascertain whether they bought cotton mixed or pure. They should also be told that if they wanted pure cotton they should ask for such a guarantee in their contracts. From the letter of a Lancashire spinner, it seemed pure cotton was wanted and he wished to show him that if he could pay the price, there were plenty of first class firms who could supply pure cotton. He thought that if the demand for mixed cotton died, the problem would be solved automatically and if it did not die shippers should sell their cottons openly either as mixed or pure.

Mr. Ramamurty said that in the Madras Presidency mixing was considered definitely as an evil and that steps had accordingly been taken through the Cotton Transport Act and the Cotton Control Act to prevent respectively the import of short staple cotton into protected areas and the growing of Pulichai cotton which was used for mixing. He was therefore interested to hear that the mixing of Punjab-American with *desi* cotton in the Punjab was regarded as more or less beneficial to the grower. He thought that if a province produced a large quantity of superior cotton and that if this cotton was mixed with inferior cotton, the price of the superior cotton would be depressed and as a result of this the whole province would suffer. In the Punjab it seemed long-staple cotton was much smaller in quantity than the *desi* cotton, and the result of mixing was therefore different from what it would be in the Madras Presidency. The question therefore whether mixing was good or bad appeared to depend on the conditions of the province. He, therefore, favoured the re-affirmation of all the previous resolutions of the Committee to the effect that permissive legislation should be passed so that if mixing was considered an evil in any province, that province might take necessary action. In Madras the Cotton Transport

Act was applied only to transport by rail and they were unable to stop transport by road. Permissive legislation for the licensing of gins and presses would possibly enable them to make their measures more effective.

Sardar Rao Bahadur B. R. Naik said that the question of mixing Punjab-American cotton had been before the Committee since 1924, and resolutions had been passed and forwarded to the Government of India asking that steps should be taken to prevent this malpractice. He failed to understand what new considerations had now been brought to bear, which warranted a withdrawal of the past resolutions. He fully endorsed the Vice-President's resolution but he also urged that the Government of India should be asked to undertake legislation empowering Provincial Governments to pass their own law if they found it necessary to do so. Last year shippers in Bombay and the Ahmedabad millowners had pointed out that Broach cotton had been mixed with *Goghari*. He contended that there was no use spending so much money on research schemes if cotton was allowed to be mixed.

The resolution moved by the Vice-President was carried unanimously.

SUBJECT 8.—*Findings of the Special Meeting of the Agricultural Research Sub-Committee held in June 1934—Reference from the last meeting of the Indian Central Cotton Committee.*

The President said that in accordance with the decision of the Committee at its last meeting this subject had been brought on the agenda and that the Secretary's note might now be recorded.

This was agreed to.

**FINDINGS OF THE SPECIAL MEETING OF THE AGRICULTURAL RESEARCH
SUB-COMMITTEE, AS APPROVED BY THE INDIAN CENTRAL
COTTON COMMITTEE.**

"1. A memorandum on the agricultural research schemes prepared by the Secretary at the instance of the Standing Finance Sub-Committee was considered by that Sub-Committee at its 126th meeting held on the 19th January 1934, and referred to the Indian Central Cotton Committee for further consideration in the light of the expenditure so far incurred on agricultural research, the future commitments of the Committee with regard to current schemes, and the general financial position of the Committee. The Indian Central Cotton Committee, at its 28th meeting held on the 30th January 1934, considered this subject and decided to call for a report on it from the Agricultural Research Sub-Committee and passed the following resolution:—

RESOLUTION 20.—'That a special meeting of the Agricultural Research Sub-Committee be fixed as early as feasible in April, but not later than May 15th, to consider the papers on Subject 34 of the Agenda of this meeting, and that all members of the Agricultural Research Sub-Committee, specially technical members, be asked to submit their memoranda to the Secretary not later than 31st March 1934.'

2. It was also decided that the scope of the enquiry should be extended to seed schemes as well and that the question of maintaining a minimum balance on hand raised by the Vice-President should be considered at the next meeting of the Committee along with the report of the special meeting of the Agricultural Research Sub-Committee.

3. In pursuance of the above resolution, a special meeting of the Agricultural Research Sub-Committee was convened on the 29th June 1934, as on account of unavoidable circumstances it could not be held earlier. The Sub-Committee met on the 29th and 30th June 1934 and examined in detail all the schemes, both agricultural and seed-extension, and arrived at the following conclusions and recommendations.

4. (a) It was agreed that the undermentioned schemes had yielded no results of immediate practical value :—

(1) Surat Physiological Scheme.

(2) Dharwar Plant Breeding work for the improvement of Upland-American cotton.

(3) Central Provinces Mycological Scheme.

(4) Punjab Entomological (Pink Bollworm) Scheme.

(b) The undermentioned schemes were adjudged as having yielded useful results :—

(1) Surat Entomological and Clean-up Schemes.

(2) Dharwar Wilt Scheme.

(3) Khandesh Cotton Breeding Scheme.

(4) Central Provinces Botanical Scheme.

(5) United Provinces Pink Boll-worm Scheme.

(c) It was decided that the following schemes which were practical should be allowed to continue :—

(1) Madras Herbaceum Scheme.

(2) Madras Fodder Cholam Scheme.

(3) United Provinces Cotton Survey Scheme.

(4) Punjab Botanical Scheme.

(5) Punjab White Fly and Spraying Trials Schemes.

(6) Punjab Root Rot Scheme.

(7) Punjab Physiological and Bio-chemical Scheme.

(8) Punjab Defibrating and Delinting Scheme.

(9) Sind Physiological Scheme.

(10) Bengal Comilla Scheme.

(11) Hyderabad Botanical Scheme.

(12) Hyderabad Cotton Survey Scheme.

(13) Baroda Root Rot Scheme.

(14) Burma Cotton Improvement Scheme.

(15) Bikaner Gang Canal Scheme.

In the case of Nos. 1, 2, 3 and 14 it was specifically decided that they might be allowed to continue till the end of their sanctioned periods only and that no more extension should be granted to No. 14 after that.

(d) No decision could be reached on the following schemes as they were all new schemes and it was too early to pass any judgment on them :—

- (1) Jalgaon Cotton Breeding Scheme.
- (2) Broach Cotton Breeding Scheme.
- (3) Bombay Small Leaf Disease Survey Scheme.
- (4) Madras Nadam Cotton Breeding Scheme.

(e) The following special recommendations were made with regard to other schemes :—

(1) The question of continuance of the Madras Pempheres and Physiological Scheme should be further discussed by the Indian Central Cotton Committee at its next meeting.

(2) The Agricultural Research Sub-Committee at its next meeting should consider the possibility of co-ordinating the Central Provinces Entomological Scheme with the Hyderabad Pink and Spotted Bollworm Scheme.

(3) The question of continuance of the Punjab Spotted Boll-worm Scheme might await its first year's report.

(4) The consideration of the United Provinces Pink Boll-worm Extension Scheme should be put off till the scheme was finally adopted by the United Provinces Government.

(f) The following general policy in regard to schemes was also laid down :—

A. Agricultural Research.

(1) Local Departments of Agriculture should, as hitherto, continue to submit research schemes.

(2) A complete and thorough summary of the up-to-date work done and the knowledge gained on the problem in question in other parts of the world should accompany each scheme.

(3) A special Sub-Committee of expert members should be appointed to examine every new scheme and find out if, in preparing it, the officer concerned had complied with item (2) and had taken into account all published work, and consulted competent authorities on the subject.

(4) Hereafter the Committee's money should not be spent where provincial money was available.

(5) (a) All entomological, mycological and physiological schemes should be scrutinised more thoroughly from the economic point of view.

(b) Certain Indian Universities and their constituent Colleges are now better equipped than formerly for research work in these branches of science and should be encouraged to take up problems bearing on cotton cultivation as are adapted to their organisation and equipment.

(6) The Agricultural Research Sub-Committee should, after examining the new schemes, frame a wider programme for the whole of the area having the same problem and decide where the main research should be carried out, and where sub-stations, if necessary, should be opened.

B. Seed Distribution and Extension.

Though no departure from the accepted policy in regard to seed schemes is necessary, in future all new seed schemes should be subjected to a very thorough and careful scrutiny before they are sanctioned.

C. Publicity and Propaganda.

That the Publicity and Propaganda scheme should be continued at the expiry of its present sanctioned period.

D. Indore Institute.

The work done at the Institute of Plant Industry, Indore, during the Directorship of Mr. A. Howard (now Sir Albert Howard), in furtherance of the object, viz., the improvement of cotton, for which the Institute received its main support from the Committee, has produced no tangible results. As attention was concentrated during this period on propaganda work and compost, instead of research into cotton problems as was originally intended, the money so far spent on the Institute by the Committee is as good as practically wasted. The new programme of work initiated by the new Directorate appears to be promising and worthy of being given a fair trial, provided adequate safeguards can be devised to ensure that approved programmes are actually carried out and not neglected as before. To achieve this end a more effective control by the Committee over the affairs of the Institute, than has hitherto been the case, should be secured. This is possible only if the Committee has an absolute majority on the Board of Governors. A revision of the existing position of the Indian Central Cotton Committee on the Governing Body being therefore necessary, a report from the President in that direction might be awaited.

It was also decided that it was necessary to have a Central Research Station for cotton, and that for the present it should be the Institute.

E. General.

With regard to the complaint of Mr. W. Roberts that the Hyderabad State had been liberally treated by the Committee in the matter of financing schemes put up by the State the Sub-Committee was unanimous that no departure should be made in its policy of sanctioning schemes submitted by the States on their own merits.

Differing from Mr. Roberts regarding the alleged mismanagement of cess funds by the Standing Finance Sub-Committee, the Sub-Committee placed on record its deep appreciation of the work done by the Standing Finance Sub-Committee."

SUBJECT 9.—*Proposed maintenance of a minimum balance from the accumulated funds of the Committee—Reference from the Government of India.*

The Vice-President referring to the Secretary's note pointed out that even if new expenditure was not voted from that year onwards, the

Committee's balances would be decreased at the end of five years from Rs. 19 lakhs to Rs. 11 lakhs. The Committee in 1926 had definitely turned down the suggestion of the Government of India for the creation of an investment reserve because of the conditions then existing, but the position had since altered. The only alternatives left to the Committee at present were either to vote money according to their balances or to increase its source of revenue. The present revenue of the Committee was the cotton cess estimated at about Rs. 6 lakhs per annum and interest from investments. He was against asking the Government of India to increase the cess and was also doubtful if the legislature would sanction it. In reply to the reference from the Government of India he suggested that they should be informed that the Committee intended to maintain a minimum balance of Rs. 9 lakhs but that there should be no objection to its drawing upon this minimum balance in case of emergency, provided such withdrawals were made good as soon as conditions improved. The Standing Finance Sub-Committee favoured a 9 lakhs minimum balance in preference to a lower figure to ensure that in the event of any unforeseen diminution of the Committee's regular income, the reserve would not be lowered to an undesirable limit. The Agricultural Research Sub-Committee had also accepted this figure. He moved the following resolution :—

RESOLUTION 14.—“The Indian Central Cotton Committee recommends that a minimum balance should be maintained, and that it be Rs. 9 lakhs. There should be no objection, however, to draw upon this minimum balance in case of emergency provided such shortages are made good as soon as conditions improve.”

Mian Nurullah seconded the resolution.

Mr. P. B. Richards, agreeing with the Standing Finance Sub-Committee's recommendation for the maintenance of a minimum balance of Rs. 9 lakhs to be held against emergencies, considered it inconceivable that between 1935 and 1939 the Committee would not vote money for any new scheme. He concurred with the Vice-President regarding the only two alternatives open to the Committee, but he did not think that the work of the Committee could be carried on with an income of Rs. 6 lakhs, *plus* interest. The permanent commitments of the Committee fell under the heads “Administration”, “Improvement of Cotton Marketing”, “Printing and Propaganda” and “Technological Research” and totalled Rs. 3,85,000 to which had to be added expenditure under “Research Studentship” Rs. 20,000, and for the Institute of Plant Industry Rs. 85,000, the lowest minimum. As continuity was essential for Plant Breeding work, the expenditure on such schemes amounting at present to Rs. 1,69,000 had to be regarded as semi-permanent commitments of the Committee although these schemes were sanctioned for definite periods. Thus the permanent and semi-permanent commitments of the Committee without providing for extensions and for Local Governments taking an increased share in the cost amounted to Rs. 6,59,000 against an income of Rs. 6,00,000 *plus* interest on the reserve. He did not think that the Committee would also agree to stop financing

seed schemes if the Local Governments concerned were not prepared to take them over, as it was at that stage that the benefits of the Committee's labours began to appear. These cost the Committee annually about Rs. 1,65,000. His calculations showed that Rs. 13 lakhs per annum were required to carry on the Committee's work and the only way of getting this income was by doubling the cess which would then give Rs. 12 lakhs a year *plus* interest. According to him the balance in 1936-37 would be Rs. 14,45,000 and it would be reduced in 1939-40 to Rs. 3,95,000.

Replying to a query of Mian Nurullah, *Mr. Burt* said that the proposal made in 1926 by the Government of India for the creation of a reserve would have involved interference with the administration of the Committee's funds and the establishment of a permanent investment reserve the interest from which was to form a permanent income of the Committee. This proposition every member of the Committee, both trade and agricultural, resisted.

Mian Nurullah, while appreciating the stand the Committee then took, regretted that no attention was paid to the question of fixing a minimum balance. He agreed with *Mr. Richards* that most of the Committee's schemes, costing annually about Rs. 2 lakhs more than the income, had to be continued if wastage of money were to be saved. He therefore suggested that whilst looking for means to add to the Committee's income, the question of reducing expenditure should not be overlooked. He felt that the trade, the ginning factory-owners and the growers would all regard an increase in the cess as a permanent burden on them. He suggested that in future the cess might be levied not on the number of bales but on the price of a bale which should be fixed on the basis of the previous year's revenue or the previous year's prices. A factory that had pressed, say, 100 bales, had done Rs. 10,000 worth of work and would be prepared to pay more cess in the next year, if necessary. He considered that the Committee's annual expenditure should be limited to its annual revenue.

Mr. Chunilal B. Mehta said that *Mr. Richards* had anticipated too much by assuming that the schemes due to terminate would be extended. This was dependent upon the finances of the Committee. The report of the Special meeting of the Agricultural Research Sub-Committee showed that money spent on some schemes had been a waste. The only question for decision now was whether a minimum balance should be maintained or not and, if so, what this balance should be. When necessity for more money arose the question of increasing the cess could be discussed.

Mr. Burt stressed the necessity of considering at this stage the financial position of the Committee in relation to its policy. He was of opinion that without completely upsetting the balance between the Committee's own expenditure and that in the provinces a regular income of not less than Rs. 10 lakhs a year was necessary. He personally believed that the Committee would now have to prepare and place before the trade and ultimately the Legislature a reasoned statement showing what it had done and what it was trying to do before asking for an increase in the cess. Economy by itself would not be adequate and if it was desired to keep the annual expenditure of the Committee within Rs. 6 lakhs,

then essential portions of the Committee's work would have to be left out. He agreed to the reserve balance being fixed at Rs. 9 lakhs.

In reply to questions as to how the present position compared with that of 1926, *Mr. Burt* said that in 1926 the Committee had a very large balance and the trade members urged increased expenditure for the good of the cotton grower in India. What the Government of India meant at that time by the establishment of a permanent investment reserve was the provision of a certain annual income in perpetuity. The present proposal for the maintenance of a reserve was in the nature of an insurance against bad times and was equivalent to a famine fund. In a very bad year which might be due to a mill strike or a bad export demand, the cess might fall to something like Rs. 3 lakhs and to meet such a contingency provision had to be made so that the programme of work would not be disturbed. From this point of view he did not consider the proposed reserve of Rs. 9 lakhs to be excessive.

Mr. Roberts, in supporting the proposal for a reserve of Rs. 9 lakhs, said that he agreed with *Mr. Richards* that the Committee was morally committed to some of the schemes now under operation and that these could not be stopped although expenditure on them might be reduced. He maintained that the time would come when the cess would have to be increased to, say, three annas but that question did not arise now.

Mr. Coleridge said that the attitude of the trade generally towards the cess was rather in favour of its abolition than of its being doubled, and that before the trade agreed to any increase in the cess, it would want to be satisfied that the Committee had since its inception improved the cotton of the country. The average reports received from the trade in reply to the Committee's circular in 1929 or 1930 asking for opinions as to the Committee's work on Indian cotton within the first ten years of its life were to the effect that Indian cotton had undoubtedly deteriorated but the agricultural officers concerned at that time thought a period of ten years to be too short in which to judge the results of agricultural schemes. He personally considered that during the past five years very great improvement had resulted. He suggested that the opinion of the trade should be obtained on the subject of an increase in the cess as the cess was paid by the trade.

Sardar Sampuran Singh was opposed to any reduction in the Committee's expenditure in view of the work done and the money spent so far and he considered that the question of increasing the cess should be taken up. He expressed himself in favour of an increase in the cess of one anna. He was of opinion that there was an appreciable improvement in the quality of cotton in India, that success was in sight and that a good harvest would be reaped out of the money spent.

Sardar Rao Bahadur Bhimbhai R. Naik questioning the justification for an increase in the cess remarked that the cess would ultimately come out of the pocket of the growers. The trade and growers were both opposed to the cess and he did not think that the Legislative Assembly would sanction any increase.

Mr. Y. G. Deshpande supported the view of *Sardar Sampuran Singh* for an increase in the cess if more money was necessary. He considered that the improvements effected would ultimately benefit the grower and he did not believe that even a 100 per cent. increase would be an unbearable burden to any one. Money had to be found to improve the quality of cotton in this country and the only way of doing so was by increasing the cess.

Rao Bahadur C. S. Shirahatti supporting *Mr. Y. G. Deshpande* said that improvements put more money into the pockets of the cultivator and that an increased cess of one anna per bale would not be a burden on the cotton grower. He considered that the research work of the Committee should be handed over to Provincial Agricultural Departments who should be given a certain amount of help and that the policy of the Committee should be to spread improved types of cotton on a large scale through the medium of seed schemes. He suggested the earmarking of not more than 25 per cent. of the Committee's income for seed schemes throughout India.

Mr. N. M. Deshmukh was opposed to any increase in the cess in view of the deplorable condition of the cotton trade and the cotton grower. He considered that the improvements so far effected were not proportionate to the money spent and therefore did not justify additional taxation. He favoured retrenchment and the scrapping of all those schemes which had given no results as also those which were not likely to prove of value.

Khan Bahadur Sardar Habibullah did not favour any reference to the trade on the subject of an increase in the cess as he considered that the cess was paid by the grower. He was of opinion that useful work had been done by the Committee and that work should be continued even though some schemes had not produced useful results. The Committee should, however, be more careful in starting new schemes; it should cut down its expenses as much as possible and ask Government for an additional cess of one anna which he did not think would be a great hardship.

Mr. Saklatvala shared the view of *Mr. Coleridge* that the trade would regard any increase in the cess to be unjustifiable, because it was not convinced that the amounts so far spent had produced results which were beneficial either to the grower, the industry or the trade. There was therefore no chance of such a proposal succeeding. The trade could not always pass on its losses to the agriculturists and sometimes it had to bear it itself. Any proposal therefore for an increase in the cess would have to satisfy both the trade and the grower. In view of the present deplorable condition of the agriculturist an increase of even one anna would be a great hardship and as the trade too was contending with difficulties the present was an inopportune time to raise the question of increasing the cess. He thought that if this were done several applications would at once be received for the abolition of the cess altogether. Only after the Committee had satisfied the trade

and the grower that good work had been done, the question of increasing the cess could be raised.

Mr. Stewart said that in view of the expenditure to which the Committee was committed during the next few years, the figure of Rs. 9 lakhs proposed for the reserve should be cut down, but that if it was decided to retain that balance the Committee should get ready to prepare its case for an increased cess.

Mr. Hutchinson, emphasising the necessity of continuity in the breeding schemes, said that one of the most important problems that Indian cotton was faced with was that the trade and the cultivator were in a bad condition. Indian cotton was at the bottom end of the world's market and unless better cotton was produced the position of India could not be improved. Breeding schemes could not be expected to give results in five years. If continuity in breeding schemes were broken, all the previous work on them would be lost. The problem of getting rid of short stapled cotton was a national one. Results from the Committee's work were already evident. *Verum* cotton in the Central Provinces had made a considerable stride towards eradicating the short staple cotton and similar work was in progress in the Punjab and Central India. If this work were dropped the trade and the cultivator would be very far behind in the world's market. Yield and ginning percentage were important respectively to the cultivator and the ginner but the trade would require better staple if it was going to benefit.

The President said that the two questions for decision were whether a reserve balance was necessary and, if so, whether it should be fixed at Rs. 9 lakhs, with the condition "that there should be no objection, however, to draw upon this minimum balance in case of emergency, provided such shortages are made good as soon as conditions improve", as recommended by the Agricultural Research Sub-Committee.

The question of the principle of fixing a minimum balance was put to vote by the President and carried.

Dealing with the second question, *the Vice-President* sympathised with Mr. N. M. Deshmukh regarding the deplorable condition of the cotton grower to-day as a whole and in most parts of India where short and medium staple cotton was grown and remarked that this was one of the reasons why an increase in cess was not recommended by the Standing Finance Sub-Committee. Mr. Coleridge completely represented the opinion of the commercial community. Whilst he agreed with Khan Bahadur Sardar Habibullah that after all it was the cotton grower who gave the money, he felt that those who helped the cultivator to market his crop had also a right to speak. Even as small a cess as half an anna or $\frac{2}{3}$ anna would be felt by the grower and would prove an additional burden of taxation on him. He fully sympathised with Mr. Richards and the Directors of Agriculture regarding the necessity of keeping the work which was in hand going and he was glad to see agricultural representatives extolling the activities of the Indian Central Cotton Committee and expressing themselves in favour of an increase in the cess. The remarks of Sardar Sampuran Singh and Mr. Y. G. Deshpande to the

effect that definite improvements had been effected was a matter of some consolation and satisfaction to the Committee. With Rs. 9 lakhs as minimum balance if after three years more material could be made available to the public which would justify an approach to the Legislature for an increase in the cess, he did not think that money would be refused. At present, however, the question was not pertinent as the Committee still had a balance of Rs. 19 lakhs. In the meantime, the Technological Laboratory was going to issue a concise popular report on its activities and after a few more encouraging reports had been received from the various provinces the question of raising the cess could be considered.

Mr. Y. G. Deshpande, in moving an amendment "That the reserve be fixed at Rs. 6 lakhs", expressed himself as being opposed to the maintenance of any minimum balance and said that he only did so because the Committee was required to fix a minimum. He was of opinion that money must be made available for research work, and differed from those who thought that the back of the agriculturist would be broken by an additional tax of one anna per bale. Compared with the benefit to be derived, the incidence of taxation was negligible. The problem of marketing the cotton crop of India had to be faced as only half of it was consumed in the country. The other half had to be exported, and if Indian cotton was to find a wider market, its quality had to be improved. This could not be done without money and therefore money had to be found at any cost for the betterment of the agriculturist. He agreed with the Vice-President that the present was not a very propitious time to recommend to the Government of India an increase in the cess, but he thought that if the minimum balance was put at a low figure and the Government of India questioned why this had been done the Committee could say that more money was wanted for the work of the Committee. In this way the case for a higher cess could be started.

The amendment was seconded by *Seth Isserdas Varindmal*.

Rao Bahadur G. R. Kothare said that after a very careful consideration of the question the Standing Finance Sub-Committee had come to the conclusion that the minimum balance should be fixed at not less than a year and a half's income. Furthermore, it was proposed that in case of emergency the Committee could draw on this reserve provided it was made good later. He opposed any reduction in the reserve proposed.

The President put to the vote *Mr. Y. G. Deshpande's* amendment "that the reserve balance be reduced to Rs. 6 lakhs".

The amendment was lost by eleven votes against 8.

The resolution moved by the Vice-President was then put to the vote and was carried.

SUBJECT 10.—*Spread of Garrow Hill or Deorwada cotton in Berar.*

Explaining the subject under consideration, *Mr. Mahta* said that *Deori*, *Vishnoor* and *Deorwada*, etc., were merely different local names for one and the same cotton, viz., *Garrow-hill* (*G. cernuum*). This cotton possessed no staple and was, in fact, more like wool than anything else. It was a serious impediment to the success of the recently approved scheme for the extension of medium staple cottons in the Central Provinces and Berar, as it was a very hardy variety and being immune to wilt and comparatively free from other diseases also, and possessing a ginning percentage as high as 47 to 50, it was very prolific. If left unchecked, it would soon spread over the entire cotton tract of the Central Provinces. The Provincial Cotton Committee was alarmed at the rapid strides this variety had made during the last five years, and recommended the introduction of legislation on the lines of the Madras Cotton Control Act of 1932 to check the growth of this cotton, which the Local Government had now under consideration. He felt, therefore, that a resolution by the Indian Central Cotton Committee would considerably strengthen the hands of the Agriculture Department. *The Vice-President* said it appeared to him that history was going to repeat itself in Berar in the manner it had done in Surat and Broach. While, on the one hand, the Committee was spending a good deal of money in trying to improve the staple of the tract by extending *Verum* cotton, on the other, the existing staple was being ruined beyond recognition by the spread of this cotton which was no better than wool in staple, and which in five years had increased well beyond 60 per cent. There was no doubt that if unchecked it would soon cover the whole tract. This cotton had been detected even at Kapusthali and Anjangaon, the cotton of which used to be sold a few years back well over ordinary Berars, and he would not be surprised, if in a few years, these names became absolutely misleading. He would, therefore, like to see a resolution passed by this Committee strongly urging upon the Local Government to give immediate effect to the recommendation of the Provincial Committee. The seriousness of the risk the indigenous cottons ran must also be brought to the notice of the Local Government.

The following resolution moved by him was carried unanimously :—

RESOLUTION 15.—“The Indian Central Cotton Committee views with alarm the spread of Garrow Hill cotton in the Central Provinces and Berar and strongly recommends to the Central Provinces Government to give immediate effect to Resolution 3 passed at the last meeting of the Central Provinces Provincial Cotton Committee held on the 19th September 1934.”

SUBJECT 11.—*Report of the Research Students Selection Sub-Committee.*

The following resolution was carried unanimously :—

RESOLUTION 16.—“That the Report of the Research Students Selection Sub-Committee be adopted.”

SUBJECT 12.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

Mr. Roberts moved the following resolution :—

RESOLUTION 17.—“The Indian Central Cotton Committee views with great concern the increase in the practice of heavy mixing of Punjab-American and *Desi* cotton which is taking place this year. The concession for long distance *kapas* transport given by the North-Western Railway and other railways a few years ago has this year, particularly, resulted in accentuating this practice. The concession on the North-Western Railway was, the Committee believes, originally introduced to assist in the marketing of Bahawalpur cotton when ginning arrangements were inadequate. This is not now the case. This Committee wishes to press the Punjab Government to make enquiries and, if possible, to move for the withdrawal of this concession in the general interest of the cotton growers of the Province.”

He thought that this resolution, if passed by the Committee, would strengthen the hands of the Punjab Provincial Cotton Committee to get some practical measures taken up at once to stop mixing. *Mr. Richards* seconded the resolution. *The Vice-President* said he would support the resolution on the very broad and basic principle that transport facilities should not be misused to the detriment of the local cotton of any province. Not only the Punjab but also every other province and State should look into this question, for, e.g., it had been reported that cotton from Agra was being brought to Indore market. Characterising this practice as murderous on the indigenous cotton, he mentioned the prevention of its possibility in any tract as one of the important steps the Committee should take, before it voted the money for improving the quality of the cotton of that tract.

The resolution was put to vote and carried unanimously.

SUBJECT 13.—*Provincial Cotton Committees—Proceedings of the Central Provinces Provincial Cotton Committee.*

Mr. N. M. Deshmukh in moving the following resolution

RESOLUTION 18.—“The Indian Central Cotton Committee requests the Government of India to take immediate steps to amend the Cotton Ginning and Pressing Factories Act No. 12 of 1925 so as to protect the interests of the cotton growers in all respects ”

traced the past history of the attitude of the Committee in regard to the question of the licensing of gins and presses. He said that the object of the resolutions passed by the Committee on this subject was to put a stop to malpractices, such as watering and mixing and that although the resolution of 1934 referred specially to the malpractice of watering, it did not exclude the malpractice of mixing. The enabling legislation proposed by the Committee sought to empower those provinces where malpractices existed to apply the provisions of the Act if they considered it to be necessary. Referring to the arguments wherein prominence was given to the administrative difficulties which might arise if legislation were enacted to stop the malpractice of mixing, he said that the Local Governments applying the Act would so frame their rules

that the difficulties apprehended would be considerably minimised. He agreed that when Government machinery was put into operation, a certain amount of harrassment would perhaps be unavoidable. This fact, however, by itself did not constitute a sufficient reason for withholding action in order to prevent the malpractices which were growing from day to day. The Punjab members had declared that Punjab-American cotton was mixed to a large extent and they considered it necessary that the Government of India should undertake legislation to stop the malpractice. He did not accept the view that mixing was absolutely necessary to meet the demand for mixed cotton from outside India. The letter from the Lancashire Indian Cotton Committee, considered under Subject 7, amply testified that mixed cotton was not wanted. That letter expressed the opinion of the Lancashire trade in general and not of any particular mill and he therefore felt that a very strong case had been made out for a recommendation being sent to the Government of India to the effect that immediate steps should be taken to prevent malpractices including those of watering and mixing. As regards the position of Indian States, if legislation were enacted in British India, he considered that the States concerned would pass similar legislation if they considered it to be necessary. He agreed with the views expressed under Subject 7 that legislation for licensing gins and presses might not entirely stop mixing and he therefore suggested that there should be a provision in law under which shippers and sellers would be compelled to state exactly what type of cotton they were shipping or selling and also the proportion of mixture, if any, contained in the bales. The buyer would thus know exactly what he was getting. At present cotton exported from India was sold with no indication as to the extent of its purity and therefore spinners using this cotton were inclined to think that it was in an unmixed state. When, however, they found, on opening, that the bales were mixed, they were so disgusted that they stopped using Indian cotton. If legislation of the nature proposed by him were passed, cotton would fetch its proper price. Thus the interests of the cotton grower would be protected and at the same time Indian cotton would not get a bad name abroad. The considerable sums of money which were being spent by this Committee to improve the present varieties of cotton in the various provinces would be a waste if malpractices were allowed to continue. *Mr. Mahta* in seconding the resolution said that the Central Provinces Provincial Cotton Committee at its last meeting passed a resolution urging strongly that legislation should be introduced to prevent the malpractice of mixing and watering cotton. This resolution was sent to the Local Government who in turn addressed the Government of India suggesting the introduction of a permissive clause in the Cotton Ginning and Pressing Factories Act whereby the local Legislature could be empowered to make rules to check the evils mentioned. He expressed the view that if the Indian Central Cotton Committee passed a resolution and it was accepted by the Government of India, the Central Provinces would be the first to apply the provisions of the Act.

The resolution was carried.

SUBJECT 14.—*Report* of the Special Sub-Committee to consider the question of a wider market for Indian cotton.*

SUBJECT 15.—*Tariff and other restrictions affecting the market for Indian cotton in foreign countries.*

SUBJECT 16.—*Proposed negotiations with Italy on Indo-Italian Trade relations.*

SUBJECT 17.—*Possibility of growing long staple cotton in the present short staple cotton areas of India.*

Mr. R. G. Saraiya suggested that the Indian Central Cotton Committee might get into touch with consumers of Indian cotton outside India and see that their handicaps in taking more Indian cotton were removed as far as possible. Seth Isserdas Varindmal strongly supported the suggestion that the Government of India be asked to get removed the difficulty experienced by Germany in securing Indian cotton in exchange for her manufactured goods. The Vice-President read out an extract from a circular dated the 18th January 1935 issued by an Alexandrian firm, and remarked that, if the Egyptian Government could arrange to exchange £400,000 worth of Egyptian cotton or fertilisers, the Indian Government could also take similar measures. Germany was anxious to enter into a similar system of barter with India and he stressed that Government's special attention might be drawn to the fact that, considering the volume of trade between India and Germany, it should not be difficult for Government to find a solution for the present difficulties, if Government were only earnest in the matter. Mr. Coleridge said that barter was the only possible way of selling cotton to Germany. As an instance, he said that his firm was at that time trying to negotiate with another firm the sale of some Indian cotton in exchange for German goods required by that firm. Mr. Burt said it might be of considerable help if firms like Messrs. Gill & Co. would write to the Commerce Department on this matter and give details of their experiences.

The following resolution was then carried unanimously :—

RESOLUTION 19.—“ That the Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton be adopted.”

SUBJECT 18.—*Report† of the Cotton Forecast Improvement Sub-Committee.*

SUBJECT 19.—*Post-Mortem Examination of the cotton forecasts of 1933-34 season.*

SUBJECT 20.—*Reports of enquiries into the village consumption of cotton in the Punjab, Bombay Presidency Proper and Baroda State.*

SUBJECT 21.—*Annual Census of stocks of cotton held in India.*

Mr. Coleridge enquired why the all-India forecast estimates issued in December were out by a million bales. Mr. Burt pointed out that

*Appendix IV (page 64).

†Appendix V (page 65).

improvement in the accuracy of all-India forecast estimates depended upon the improvement in the accuracy of provincial and State cotton forecasts. He explained that the Sub-Committee was trying to effect this improvement by subjecting the forecast estimates to two independent checks, viz., (1) mill consumption within the trade blocks plus cotton transported by rail and river out of trade blocks, and (2) the cotton press returns. For some time past the Sind forecasts had been found absurdly low when thus checked and it became clear that this was due to the standard normal yield figures being far too low. These figures had accordingly been revised, and it was hoped that the Sind forecasts would in future be more accurate. There were many difficulties in the way of effecting improvement in the accuracy of forecasts, and these, so far as the Indian Central Cotton Committee was concerned, were being dealt with in detail by the Cotton Forecast Improvement Sub-Committee.

The following resolution was carried unanimously :—

RESOLUTION 20.—“ That the Report of the Cotton Forecast Improvement Sub-Committee be adopted.”

SUBJECT 22.—*Summary of Proceedings of the Local Sub-Committee.*

The Secretary's note was recorded.

SUBJECT 23.—*Report of the Special Sub-Committee regarding the case of Mr. D. F. Kapadia, late Assistant Technologist, Technological Laboratory.*

The following resolution was unanimously carried :—

RESOLUTION 21.—“ That the Report of the Special Sub-Committee appointed to deal with the case of Mr. D. F. Kapadia be adopted.”

SUBJECT 24.—*Report* of the Agricultural Research Sub-Committee.*

The President proposed :—

RESOLUTION 27.—“ That the Report of the Agricultural Research Sub-Committee be adopted.”

Mr. Roberts, referring to the summary rejection by the Agricultural Research Sub-Committee of his suggestion for the more rapid multiplication of new varieties, said that he was personally struck by the favourable opinions from all except Bombay and the Central Provinces. He put up his suggestion only because he thought that a year or two could be saved in the early stages by this method and to that extent some expenditure on botanical schemes. Quicker results meant less expenditure. If for sugar-cane Madras could serve as the breeding place for the whole of India, he failed to see why this method could not be extended to cotton. He did not wish to move a resolution, but he would be glad if the Committee kept the matter open so that the Committee or a small Sub-Committee might go further into the matter.

* Appendix VI (page 66).

Mr. Hutchinson said that *Mr. Roberts'* proposal was worthy of some consideration. He was particularly interested in this question and if *Mr. Roberts* and the Committee had no objection, he would be willing to take up this problem. *Mr. Roberts* said that he was much obliged to *Mr. Hutchinson* for his offer to go into the question. *Mr. Jackson* was of opinion that the proposal was a very sensible one and worthy to be followed up in order to find out how far it would be useful. *Mr. Burt* did not think there was enormous scope in the suggestion. He warned the Committee of the risk run in undertaking the multiplication of seed outside its normal area. Before anything was done, the matter should be carefully considered from every point of view. For example, it was an offence to grow Pulichai cotton in Madras, and nothing ought to be done counter to the restrictions imposed by this Act or the Cotton Transport Act. *Mr. Mahta* said that at first he thought *Mr. Roberts'* proposal was a feasible one but on close examination he found it an impossible proposition from the practical point of view. His experience was that the breeder's time was consumed not so much in seed multiplication as in other aspects relating to the selection and building up of improved cotton strains. He wished to point out that once a strain had been developed and decided upon as being the best, its multiplication was a very simple process which did not occupy much time; an acre of cotton could be multiplied up in 4 or 5 years to cover the whole of the Central Provinces cotton tract. In his opinion the first few years in the life of a new strain of cotton were of the utmost importance and considerable harm could be done by too rapid a multiplication. A steady progress under normal conditions was more advisable. He gave the instance of *Verum 262* and the need within a few years of its introduction of finding out a more suitable strain to replace it. On these grounds he objected to any undue rapidity in the multiplication of seed of new cotton strains. *Mr. Roberts* thought that *Mr. Mahta* ought to carry out large scale tests under natural conditions instead of wasting time in multiplying varieties. His idea was to shorten the period of large scale tests in the earlier stages. For instance, the Director of Agriculture, Punjab, could get a thousand acres of Punjab cotton in much quicker time by this method thus saving a year or two in testing varieties. *Mr. Ramamurty* could not support the proposal on account of the trouble consequent upon the introduction of *Pulichai* cotton in Madras for experimental purposes; the Madras Government were opposed to the introduction of any short staple cotton into Madras. *Mr. Mahta*, referring to *Mr. Roberts'* remarks about the time taken for testing varieties, said that he agreed that when once a strain had been selected after years of observation, it would be better to multiply it rapidly, but there was the danger that if multiplication were carried out under dissimilar conditions, the seed produced might be undeveloped and more susceptible to disease than normal seed. That, he thought, would hinder rather than help the work. *The President* wound up the discussion by saying that *Mr. Hutchinson* had agreed to examine this question.

The resolution was put to vote and carried.

SUBJECT 25.—*Seed Distribution and Extension Schemes—Proposals for seed schemes in the Southern Division of the Bombay Presidency.*

The Vice-President said that the Agricultural Research Sub-Committee, at its last meeting, recommended some very obvious improvements in the revised scheme and that as the Director of Agriculture wanted time to consider these recommendations and modify the scheme accordingly, it was thought necessary that, in the meanwhile, the existing Hubli and Gadag schemes should, to ensure continuity, be extended for another year, at a cost of Rs. 19,000.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 26.—*Report on the Scheme for survey of disease of malformation in Punjab-American cotton.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 27.—*Report of the Sub-Committee appointed to examine and report on the future of the Madras Pempheres and Physiological Research Scheme.*

Mr. Ramamurty thanked Messrs. Burt and Hutchinson for examining the scheme and helping him to work out the revised programme.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 28.—*Madras Herbaceum Research Scheme—Inspection Report of the Secretary and Mr. J. B. Hutchinson.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 29.—*Madras Nadam Cotton Breeding Scheme—Inspection Report of the Secretary and Mr. J. B. Hutchinson.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 30.—*Punjab Root Rot Scheme—Proposed extension of.*

Mr. Stewart explained that this scheme, which had been originally sanctioned for three years, was in its third year. Though the nature of the disease had been identified to be mycological, a great deal more work had yet to be done to find out control measures, and the mode of carry-over from year to year.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 31.—*Punjab Botanical Scheme—Proposed extension of.*

Mr. Burt, explaining the financial principle raised in the Sub-Committee's report, said that plant-breeding was of necessity a continuous process and whatever might be the achievements attained within a

limited period, further progress was always possible. It was therefore felt that provincial Governments should accept a larger share of financial responsibility for these schemes when they came to be extended. A reduced grant of Rs. 1,63,000 only had been recommended for this scheme because the scheme had been in operation for ten years, and it was time that an increasing share of the expenditure on it should be borne by the Local Government in order that the Committee might have funds to finance newer schemes. The Committee's funds were not inexhaustible and the Committee was forced by the present state of its finances to adopt some such principle. *Mr. Stewart* said that the scheme had yielded several strains which were earlier maturing and higher yielding than ordinary 4-F. These strains had also better fibre qualities and spun higher counts. None of these, however, had yet been grown on an extensive scale, but three of them, N.T. 38, N.T. 43 and N.T. 36, which found favour with some people in the Punjab and Sind, were grown on about 2,000 acres this year. A large number of observation plots had been laid out throughout the Canal Colonies, which grew American cotton, and extensive experiments carried out during the year to test the first mentioned two strains. It was hoped to put out for general cultivation one or the other or both these varieties when this year's results were available. That did not mean, however, that all work was over and in fact, there was no finality for plant-breeding work. When some strains had reached their final stages, there were others equally good or more promising well on the way. The scheme had, therefore, to be continued. In view of the financial position of the Committee, he accepted the reduced grant and supported the financial principle enunciated by the Sub-Committee.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 32.—*Punjab Spraying Trials Scheme—Proposed extension of—*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 33.—*Proposed New Agricultural Research Schemes—Scheme for investigation into Red Leaf Disease of Doddahathi (American) cotton in Mysore State.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 34.—*Letter from the Head of the Entomological Department, Oklahoma, commenting on the article on the Phototropic responses of *P. gossypiella*—by M. Afzal Husain, Entomologist to the Government of the Punjab.*

The above letter was recorded.

SUBJECT 35.—*Technological Research—Progress Report* of the Director, Technological Laboratory.*

SUBJECT 36.—*Technological Research—Report* of the Technological Research Sub-Committee.*

Mr. Burt drew attention to the paragraph in the report of the Technological Research Sub-Committee regarding the preparation of a brochure containing an account of the past work of the Laboratory and said that as the Technological Laboratory had taken a lead in the application of physical methods to important agricultural problems, it would be a great advantage if a brochure could be prepared by *Dr. Ahmad* dealing with the present position of the Technological Laboratory and the work so far done for the Agricultural Departments and industrialists. *The Vice-President* hoped that some of the misapprehensions of the trade about the work of the Committee that it had done very little except for the Agricultural Departments would be removed, when the Laboratory's work of the past ten years was written up in a manner which would appeal and bring home to the ordinary layman in the trade the value of the work of the Laboratory. *Mr. Saraiya*, speaking on behalf of the cotton trade, expressed his appreciation of the work of the Laboratory.

The following resolutions were carried unanimously:—

RESOLUTION 22.—"That the Progress Report of the Director, Technological Laboratory, be approved."

RESOLUTION 23.—"That the Report of the Technological Research Sub-Committee be adopted."

The President said that before passing on to the next subject, he wished to say a word about Major Ellis Jones who had been for a long time member of the Committee, and at one time its Vice-President. Major Ellis Jones had been helping the Laboratory from its very inception in grading and valuing the samples received for tests and now that he was unable to continue this work on account of his impending departure on leave to England it was only right that the Committee should record its gratitude and appreciation of his work. He moved the following resolution:—

RESOLUTION 24.—"The Indian Central Cotton Committee wishes to place on record its sense of appreciation of the services rendered by Major W. Ellis Jones, extending over a period of ten years, in connection with the grading and valuing of cotton samples received for tests at the Technological Laboratory, and regrets that circumstances now compel him to relinquish this work."

In seconding the resolution, *the Vice-President* said that the service rendered by Major Ellis Jones so unostentatiously and without any remuneration whatever had a substantial hold on his time. He personally regretted the severance of another useful link between him and this Committee but he hoped that his guidance and help would still be available to the Committee in future also.

The resolution was carried unanimously.

SUBJECT 37.—Report* of the Standing Finance Sub-Committee.

- (a) *Balance Sheet.*
- (b) *Financial Statement.*
- (c) *Revised Estimates, 1934-35.*
- (d) *Budget, 1935-36.*
- (e) *Auditors' fees.*

Rao Bahadur G. R. Kothare referring to paragraph 19 of the report proposed that the period of appointment of the Publicity Officer be extended to five years and that his salary be increased to Rs. 1,000 rising by annual increments of Rs. 50, in view of the valuable work done by him which was very favourably commented on both by officials and non-officials.

The Vice-President touched upon some of the more important features of the Report. Referring to the extension of the Technological Laboratory at a cost of about Rs. 27,000 he said the Standing Finance Sub-Committee had only agreed to this expenditure after careful consideration and because the proposed alterations would result in greater economy. He stated the circumstances which led to the Sub-Committee's recommendations regarding the extension of the appointment of the Publicity Officer and said that the administrative changes proposed in the Secretary's office resulted from the fact that the post of Deputy Secretary was held in abeyance by the Government of India. In view of the present financial position of the Committee, *Mr. Roberts* suggested that the period of extension of the Publicity Officer should be reduced from five years to three. *Rao Bahadur Kothare* agreed to the proposed reduction in the period of extension of the appointment to three years but urged that the salary of the Publicity Officer should be fixed at Rs. 1,000—50—1,100. *The President* put to vote the amendment that the period of appointment of the Publicity Officer be extended to three more years and that his salary be fixed at Rs. 1,000—50—1,100. This was carried. *Mr. Allan's* recommendation that the two months' leave granted to *Mr. Mihra* be allowed to be taken on completion of his report on his tour in the United Provinces was also agreed to.

The following resolution moved by the *President* was carried :—

RESOLUTION 25.—“That the Report of the Standing Finance Sub-Committee be adopted.”

“That the Revised Estimates for 1934-35 be approved.”

“That the budget for 1935-36, as amended at this meeting of the Indian Central Cotton Committee, be sanctioned.”

Seth Isserdas Varindmal suggested that in view of the necessity of curtailing expenditure, only a single first class fare should be paid to members instead of the present $1\frac{1}{2}$ first class fares which he considered to be excessive. He hoped that by this sacrifice on the part of members expenditure would be reduced and economy effected. He desired that his suggestion should take effect from the next financial year. *Mr. Chelaram Shewaram* seconded the proposal. *The President* advised no

interference with the item of travelling allowance. The suggestion, if accepted, he said would also involve an anomaly inasmuch as official members would continue to draw the full travelling allowance while the non-official members would draw less. *Mr. Roberts* was not in favour of a reduction in the travelling allowance and remarked that if the right type of representatives was sent to the Committee the travelling allowance was a very small compensation for their services. He spoke on this matter as he himself drew no travelling allowance from the Committee. At the suggestion of the President *Seth Isserdas Vārindmal* withdrew his proposal.

SUBJECT 38.—*Establishment of regulated cotton markets in the Punjab.*

It was noted that the Punjab Government do not consider it desirable to undertake legislation for the present.

SUBJECT 39.—*Establishment of regulated cotton markets in the Bombay Presidency.*

It was noted that a cotton market established under the Bombay Cotton Markets Act began to function in November 1934.

SUBJECT 40.—*Institute of Plant Industry, Indore—Programme of Research work and Budget for 1935-36.*

SUBJECT 45.—*Institute of Plant Industry, Indore—Payment of instalments of grant for the current year.*

The Vice-President drew attention to the two propositions before the Committee (1) that the Committee's grant to the Institute for 1935-36 be raised to Rs. 1,06,000 from the one lakh rupees recommended by the Agricultural Research Sub-Committee and (2) that the grant for 1934-35, namely Rs. 1,15,000 be paid in full. He objected to the former. As to the latter he suggested that the Committee should stand by its previous decision and vote as much as was required up to Rs. 1,15,000 because the stipulations made by the Committee at its last meeting regarding the audit of the Institute accounts and the Committee's representation on the Board of Governors had been complied with.

Mr. Richards hoped that with the substantial majority the Committee had secured on the Board of Governors, all recollections of the past would pass away and that the Institute would be regarded in future as one which worked for the benefit of all-India cotton, in general, and Malvi cotton, in particular.

Musahib-i-Khas Bahadur Kanungo said that, at the last meeting of the Board of Governors, the Board of Governors, as re-constituted in accordance with the wishes of the Committee, carefully examined the expenditure of the Institute, and were convinced that further reduction in the grant was impossible, in spite of the fact that the Board had to turn down many promising lines of work for want of funds. He, therefore, most earnestly appealed to the Committee either to sanction the grant

asked for or to show to the Governing Body how expenditure could be curtailed.

Mr. Chunilal B. Mehta suggested that even though the Agricultural Research Sub-Committee had reduced the grant from Rs. 1,29,500 to Rs. 1 lakh on account of financial stringency, it might be raised to Rs. 1,06,000 to avoid deficit.

Mr. Roberts was pleased to note the suggestion that the Institute should be granted more money this year and felt that the Committee should ask the Institute to depend more on the support of the States in future. The Committee would never intentionally embarrass the Director but the latter should give the Committee an assurance that he would do his best to be more economical.

Mr. Hutchinson stated that the Institute should not be considered on a par with any of the provincial schemes like the Punjab Botanical Scheme. These schemes were of immediate and direct benefit to the province concerned, whereas with the exception of the breeding work on Malvi, which alone could be said of direct utility to Central India, the problems of the Institute were mainly of the nature of fundamental research of general applicability. This fact should be taken into account when considering whether the States should be asked to provide larger grants.

Mr. Jackson said that his one object was to make the Institute as a whole a success, turning out good work. As regards his original budget of Rs. 1,29,500, he explained that it was the optimum budget he could produce for utilizing to the full the facilities available at the Institute. He made it quite clear, however, that his new budget for Rs. 1,06,000 was a constricting one, checking the rate of progress and leaving no room whatever for the expansion of activities. He would try to collect the arrears due from the States, but he could not be assured of doing so.

Mr. Nizam-ud Din Hyder congratulated the Standing Finance Sub-Committee and the Director on effecting considerable reduction in expenditure, and suggested that the sum of Rs. 1,06,000 might be sanctioned.

As regards *Mr. Mehta's* amendment the *Vice-President* regretted his inability to accept it. The Director expected a deficit of Rs. 5,800 only, against which the arrears due from States amounted to about Rs. 3,000. It was not merely the filling up of this gap by voting a few thousands; there should be a finality about things as it would otherwise be absolutely impossible to carry on the Committee's work. The recommendation of the Agricultural Research Sub-Committee might, therefore, be left intact, and if the Governing Body really found it impossible to economise and make up the deficit, a fair case for a supplementary grant could certainly be made and presented at the August meeting of the Committee. On principle the arrears of Rs. 3,000 due from the States should not be left out of consideration. If these arrears were not realised at the end of the year, the Committee might vote all the money. He therefore moved that the Agricultural Research Sub-Committee's report be adopted.

The President, congratulating Musahib-i-Khas Bahadur Kanungo on his eloquent and admirable appeal, said that it was only Mr. Kanungo's great personal modesty which prevented him from revealing the very large part he played in getting all the States, except one, to accept the Committee's point of view. Regarding Mr. Mehta's amendment to grant Rs. 6,000 in addition to the one lakh of rupees recommended by the Agricultural Research Sub-Committee, the Vice-President, who is the Chairman of the Standing Finance Sub-Committee, had given the assurance that at the end of the year, when actuals were known, the Committee would make good the actual deficit in the budgetted expenditure of Rs. 5,800 after deducting recoveries from States. He suggested that, as a matter of consistency, the amendment should not be pressed.

Mr. Mehta withdrew the amendment with the approval of the seconder.

Mr. Jackson expressed his satisfaction with the assurance given by the Vice-President.

The recommendation of the Agricultural Research Sub-Committee to grant Rs. 1 lakh for 1935-36 was approved.

The Vice-President said that as regards Subject No. 45, the Committee had no option but to sanction the whole amount of Rs. 1,15,000.

The President said that in view of the previous resolution on Subject 40, a formal resolution was necessary. He moved accordingly the following resolution which was carried unanimously :—

RESOLUTION 26.—"That a sum of Rs. 1,15,000 or such smaller sum as may actually be necessary be sanctioned for the current year."

SUBJECT 41.—*Egyptian Law* to prevent the mixing of different varieties of cotton.*

The Egyptian Law, No. 51 of 1934, to prevent the mixing of different varieties of Indian cotton was recorded.

SUBJECT 42.—*Broadcasting in the mornings of commercial news on cotton.*

Though it was suggested that a resolution might be passed urging the Government of India to give immediate effect to the Committee's previous resolution requesting the revival of the early morning broadcast of commercial news pertaining to cotton, it was finally agreed that the Committee's object would be achieved more easily if no such resolution were passed.

SUBJECT 43.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

Mr. Coleridge, in referring to Sind as one of the most important cotton growing provinces in India, expressed the hope that care would be taken to keep pure the N. T. cotton which had for the first time come to the market and which was the most valuable of the new strains produced in

*Appendix X (page 111).

Sind. Some samples of N. T. cotton received by him would only fetch from Rs. 60 to Rs. 70 'on' Broach as they were obviously mixed with 4-F. Pure N. T., however, would sell at Rs. 80 to Rs. 90 'on'. He considered that as Sind was virgin soil, a good opportunity was afforded to stop mixing there either by legislation or other means. He urged that the attention of the Chief Agricultural Officer in Sind should be drawn to the admixture with short staple cotton of the better quality cottons which was taking place in order that timely remedial measures could be taken. *Seth Isserdas Varindmal* said that there were three or four N. T. types which sold at about Rs. 4 to Rs. 6 'on' 4-F. The Sind Cotton Committee favoured the growing of 289-F only in preference to these new types as the yield of the latter was less than that of the former. Although N. T. cottons were new strains, their yield of this year amounted to about 30,000 bales, which were of almost the same quality. These new types of cotton were considered to be of good quality and so fetched good prices. Only Indian mills purchased them. *The Vice-President* said that the question of keeping the produce of the virgin soil in Sind as pure as possible had been engaging the personal attention of His Excellency the Governor of Bombay. A communication from the Secretary to the Government of Bombay had been received by the East India Cotton Association and in reply the Association had stated that owing to the peculiar circumstances in Sind where virgin soil was brought under cultivation, and also in view of the absence from there of those complications which existed in other parts of India and which made the introduction of such a system difficult, it would not object to the licensing of gins and presses in that province. The Government of Bombay were doubtful if the Government of India would pass an all-India legislation, but the Local Government themselves might be able to undertake provincial legislation. In reply to Mr. Coleridge's query as to the reason for the proposed discontinuance of the production of the N. T. strains of cotton, *Seth Isserdas Varindmal* said that the agriculturists were reluctant to grow them on account of their lower yield.

The following resolution moved by *Mr. Coleridge* was carried :—

RESOLUTION 28.—"The Indian Central Cotton Committee requests the Local Sub-Committee to ascertain from the Chief Agricultural Officer in Sind what steps he proposes to take to prevent the adulteration of the new strains now being grown on virgin soil in Sind. If necessary, the Local Sub-Committee should address the Bombay Government on this important subject."

SUBJECT 44.—*Appointment of Auditors for 1935-36.*

The President suggested that the present arrangement for the audit of the Committee's accounts might be continued and proposed the following resolution which was carried :—

RESOLUTION 29.—"That Messrs. S. B. Billimoria & Co. be appointed auditors for 1935-36 at a remuneration of Rs. 750."

SUBJECT 46.—*Licenses to import cotton from Vyara to Surat.*

As the question of granting licenses to import cotton from Vyara to Surat, that is, from one station to another in the same protected area, would not have arisen but for the technical difficulty caused by the omission of the name "Vyara" from the schedule of stations in the protected area, it was decided that this omission should be rectified.

SUBJECT 47.—*Study leave of Rai Saheb Kalidas Sawhney.*

It was agreed that railway fares should be paid to Rai Saheb Kalidas Sawhney during study leave.

Mr. Saklatvala expressed, on behalf of the members, their grateful thanks to the President for conducting the proceedings of the meetings in a very tactful, pleasant and humorous manner and said that but for the President's real help, the deliberations would not have been finished so early. The President had set an admirable example of what Sir Purshotamdas Thakurdas described as "hastening slowly"; he had hastened, and yet allowed full discussion on subjects which required it. It was no exaggeration to say that, but for the courtesies shown by the President, the work of the Committee in dealing with the dry subjects before it would have been much less pleasant. It was therefore only right that the members should pass, not a conventional vote of thanks, but a hearty one with acclamation. *Mr. Richards*, fully associating himself with *Mr. Saklatvala's* remarks, added that a conceivable reason for his seconding the vote of thanks was the very extraordinary patience with which the President could listen to very lengthy remarks, the occasions on which the President had to exercise this faculty in his (*Mr. Richards's*) case having not been few. It was also a common experience of members that the President's humour had often ended periods of tension, heat and conflict in bursts of laughter. The President's watchfulness was equally keen, as members might very often have noted; his thorough grasp of matters so widely varied as those dealt with by the Committee, too, was marvellous, and enabled the Committee, under his right lead, to reach sound conclusions. *Seth Isserdas Varindmal* supported the proposed vote of thanks with very great pleasure. Rarely could new members catch the President's eye in other assemblies, but in this Committee he got a very patient hearing the very first time he attended the meeting.

The vote of thanks was carried with acclamation.

The President thanked the members for the very kind references made about him. He really enjoyed the meetings of the Committee, and always looked forward to them with pleasure, and was thoroughly disappointed if he had to miss any. It was no small pleasure to work with such a Committee where, laymen like himself, could learn a good deal from the various interests represented on this Committee. This was a Committee of which any one would be proud and be pleased to be associated with. He congratulated himself on his good fortune in having been associated with the Committee for the past six years.

P. H. RAMA REDDI.

RESOLUTIONS.

No.

Page.

Appointment of Vice-President.

- 1 "That Sir Purshotamdas Thakurdas be re-elected Vice-President for the year 1935-36 " .. 8

Standing Finance Sub-Committee.

- 2 "That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1935-36 :—
 Dewan Bahadur Sir T. Vijayaraghavacharya
 (*ex-officio*),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge,
 Mr. H. B. Moore,
 Rao Bahadur G. R. Kothare and
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik " .. 8

Cotton Ginning and Pressing Factories Sub-Committee.

- 3 "That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. H. B. Moore,
 Mr. J. Vonesch,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge,
 Mr. J. Nuttall,
 Mr. W. Roberts,
 Mr. E. J. W. Plummer,
 Mr. Y. G. Deshpande,
 The Co-operative Representative—Rao Bahadur
 M. G. Deshpande and
 Mr. Chellaram Shewaram (Co-opted member) " 8

RESOLUTIONS—*contd.*

No.

Page.

Local Sub-Committee.

- 4 "That the following members be appointed to compose the Local Sub-Committee :—

Dewan Bahadur Sir T. Vijayaraghavacharya,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. J. Vonesch,
 Mr. H. B. Moore,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge and
 Rao Bahadur G. R. Kothare "

8

Agricultural Research Sub-Committee.

- 5 "That the following members be appointed to form the Agricultural Research Sub-Committee :—

I The President—Dewan Bahadur Sir T. Vijayaraghavacharya (*ex-officio*),

II The Vice-President (*ex-officio*),

III The Director, Institute of Plant Industry, Indore—Mr. F. K. Jackson (*ex-officio*),

IV The Co-operative Representative—Rao Bahadur M. G. Deshpande (*ex-officio*),

V Cotton Growers' Representative—Mr. W. Roberts,

VI Cotton Trade Representative—Mr. H. B. Moore,

VII Four Agricultural Officers :—

Mr. B. S. Patel,

Mr. J. H. Ritchie,

Mr. H. R. Stewart,

Mr. V. Ramanatha Ayyar,

VIII Additional members :—

Mr. B. C. Burt,

Mr. R. G. Allan,

Mr. W. J. Jenkins,

RESOLUTIONS—*contd.*

No.

Page.

*Agricultural Research Sub-Committee—contd.*VIII Additional members—*contd.*

Mr. S. V. Ramamurty,
 Mr. D. N. Mahta,
 Mr. P. B. Richards,
 Mr. C. V. Sane,
 Mr. Chunilal B. Mehta,
 Mr. Nizam-ud Din Hyder,
 Mr. H. H. Pandya,

IX Co-opted members :—

Mr. Mohammad Afzal,
 Rai Sahab Kalidas Sawhney,
 Mr. J. B. Hutchinson and

X The Secretary "

8

Technological Research Sub-Committee.

6 "That the following members form the Technological Research Sub-Committee :—

The President (*ex-officio*),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. H. B. Moore,
 Mr. B. C. Burt,
 Mr. B. S. Patel,
 Mr. H. R. Stewart,
 Mr. Chunilal B. Mehta,
 Mr. Y. G. Deshpande,
 Seth Sakarlal Balabhai,
 Mr. S. V. Ramamurty,
 Lala Shri Ram,
 Mr. E. J. W. Plummer and
 Dr. Nazir Ahmad,

Co-opted Members—Two representatives each from the Bombay Millowners' Association, the Ahmedabad Millowners' Association and the East India Cotton Association and one representative from the Karachi Cotton Association "

9

RESOLUTIONS—*contd.*

No.

Page.

Research Students Selection Sub-Committee.

- 7 "That the Research Students Selection Sub-Committee be composed of the following members :—
- The President,
 The Vice-President,
 Mr. B. C. Burt,
 Mr. B. S. Patel,
 Mr. P. B. Richards,
 Mr. H. B. Stewart,
 Mr. J. H. Ritchie,
 Mr. S. V. Ramamurty,
 Mr. W. J. Jenkins,
 Mr. F. K. Jackson,
 Mr. C. V. Sane,
 Mr. H. H. Pandya,
 Mr. R. G. Allan,
 Mr. Nizam-ud Din Hyder,
 Dr. Nazir Ahmad and
 The Mysore representative "
- 9

Malpractices Sub-Committee.

- 8 "That the Sub-Committee on Malpractices be composed of the following members :—
- Sir Purshotamdas Thakurdas,
 Mr. H. B. Moore,
 Mr. B. S. Patel,
 Mr. Chunilal B. Mehta,
 Sardar Sampuran Singh,
 Seth Sakarlal Balabhai,
 Mr. G. C. R. Coleridge,
 Seth Isserdas Varindmal,
 with power to co-opt "
- 9

RESOLUTIONS—*contd.*

No.

Page.

Cotton Forecast Improvement Sub-Committee.

- 9 "That the Cotton Forecast Improvement Sub-Committee be composed of the following members :—

The President,

The Director General of Commercial Intelligence and Statistics,

The Director of Agriculture, Bombay Presidency,

The Director of Agriculture, Punjab,

The Director of Agriculture, Madras,

The Director of Agriculture, United Provinces,

The Director of Agriculture, Baroda,

The Chief Agricultural Officer in Sind,

The Director of Statistics, H. E. H. the Nizam's Government,

The Director of Land Records, Central Provinces and Berar and

The Deputy Director of Statistics " .. 9

Special Sub-Committee on Wider Market for Indian cotton.

- 10 "That the Special Sub-Committee to consider the question of a wider market for Indian cotton be composed as follows :—

The President,

The Vice-President,

Mr. B. C. Burt,

Mr. H. R. Stewart,

Mr. J. H. Ritchie,

Mr. B. S. Patel,

Mr. W. J. Jenkins,

Mr. Nizam-ud Din Hyder,

Mr. S. D. Saklatvala,

Mr. J. Vonesch,

Mr. Chunilal B. Mehta,

Mr. Y. G. Deshpande,

Khan Bahadur Sardar Habibullah,

Sardar Rao Bahadur Bhimbhai Ranchodji Naik,

Mr. Kasturbhai Lalbhai (Co-opted),

Mr. R. G. Saraiya (Co-opted),

Mr. R. G. Allan and

Mr. S. V. Ramamurty " .. 9

RESOLUTIONS—*contd.*

No.		Page.
	<i>Half-yearly Report of the Publicity and Propaganda Officer.</i>	
11	“That the half-yearly report of the Publicity and Propaganda Officer be adopted”	10
	<i>System of marking bales—Reference from the International Federation of Master Cotton Spinners' and Manufacturers' Associations.</i>	
12	“That the International Federation of Master Cotton Spinners' and Manufacturers' Associations be informed that the rule was amended at the request of the Committee on the representation of the East India Cotton Association who drew attention to cases of hardships and losses incurred by Bombay merchants because of bales being rejected in arbitration for faults in marking. The chief complaint was that the method of marking as laid down in the original rule was so meticulous that the East India Cotton Association arbitrators had no option but to reject any bales not marked strictly in accordance with the rule though the cotton was in all other respects a fair tender and even at times carrying an 'on' allowance. Under the circumstances, the Indian Central Cotton Committee regrets it is unable to revert to the original rule”	13
	<i>Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee.</i>	
13	“That a copy of this discussion be sent to the Chairman, Lancashire Indian Cotton Committee, with reference to his letter, dated the 23rd November 1934, and his reply to the various points brought out in the discussion be awaited”	22
	<i>Proposed maintenance of a minimum balance from the accumulated funds of the Committee.</i>	
14	“The Indian Central Cotton Committee recommends that a minimum balance should be maintained, and that it be Rs. 9 lakhs. There should be no objection, however, to draw upon this minimum balance in case of emergency, provided such shortages are made good as soon as conditions improve” ..	27

RESOLUTIONS—*contd.*

No.		Page.
	<i>Spread of Garrow Hill or Deorwada cotton in Berar.</i>	
15	“The Indian Central Cotton Committee views with alarm the spread of Garrow Hill cotton in the Central Provinces and Berar and strongly recommends to the Central Provinces Government to give immediate effect to Resolution 3 passed at the last meeting of the Central Provinces Provincial Cotton Committee held on the 19th September 1934 ”	33
	<i>Report of the Research Students Selection Sub-Committee.</i>	
16	“That the Report of the Research Students Selection Sub-Committee be adopted ”	33
	<i>Mixing of Punjab-American cotton.</i>	
17	“The Indian Central Cotton Committee views with great concern the increase in the practice of heavy mixing of Punjab-American and <i>Desi</i> cotton which is taking place this year. The concession for long distance <i>kapas</i> transport given by the N. W. Railway and other railways a few years ago has this year, particularly, resulted in accentuating this practice. The concession on the N. W. Railway was, the Committee believes, originally introduced to assist in the marketing of Bahawalpur cotton when ginning arrangements were inadequate. This is not now the case. This Committee wishes to press the Punjab Government to make enquiries and, if possible, to move for the withdrawal of this concession in the general interest of the cotton growers of the Province ”	34
	<i>Amendment of the Cotton Ginning and Pressing Factories Act.</i>	
18	“The Indian Central Cotton Committee requests the Government of India to take immediate steps to amend the Cotton Ginning and Pressing Factories Act No. 12 of 1925 so as to protect the interests of the cotton growers in all respects ”	34
	<i>Report of Special Sub-Committee on Wider Market for Indian cotton.</i>	
19	“That the Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton be adopted ”	36

RESOLUTIONS—*contd.*

No.		Page.
	<i>Report of the Cotton Forecast Improvement Sub-Committee.</i>	
20	"That the Report of the Cotton Forecast Improvement Sub-Committee be adopted"	37
	<i>Report of the Special Sub-Committee regarding the case of Mr. D. F. Kapadia, late Assistant Technologist, Technological Laboratory.</i>	
21	"That the Report of the Special Sub-Committee appointed to deal with the case of Mr. D. F. Kapadia be adopted"	37
	<i>Progress Report of the Director, Technological Laboratory.</i>	
22	"That the Progress Report of the Director, Technological Laboratory, be approved" ..	41
	<i>Report of the Technological Research Sub-Committee.</i>	
23	"That the Report of the Technological Research Sub-Committee be adopted"	41
24	"The Indian Central Cotton Committee wishes to place on record its sense of appreciation of the services rendered by Major W. Ellis Jones, extending over a period of ten years, in connection with the grading and valuing of cotton samples received for tests at the Technological Laboratory, and regrets that circumstances now compel him to relinquish this work"	41
	<i>Report of the Standing Finance Sub-Committee.</i>	
25	"That the Report of the Standing Finance Sub-Committee be adopted."	
	"That the Revised Estimates for 1934-35 be approved."	
	"That the budget for 1935-36, as amended at this meeting of the Indian Central Cotton Committee, be sanctioned"	42
	<i>The Institute of Plant Industry, Indore—Budget for 1934-35.</i>	
26	"That a sum of Rs. 1,15,000 or such smaller sum as may actually be necessary be sanctioned for the current year"	45

RESOLUTIONS—*concl'd.*

No.		Page.
	<i>Report of the Agricultural Research Sub-Committee.</i>	
27	"That the Report of the Agricultural Research Sub-Committee be adopted "	37
28	"The Indian Central Cotton Committee requests the Local Sub-Committee to ascertain from the Chief Agricultural Officer in Sind what steps he proposes to take to prevent the adulteration of the new strains now being grown on virgin soil in Sind. If necessary, the Local Sub-Committee should address the Bombay Government on this important subject "	46
	<i>Appointment of Auditors for 1935-36.</i>	
29	"That Messrs. S. B. Billimoria & Co. be appointed auditors for 1935-36 at a remuneration of Rs. 750 ".	46

APPENDIX I.

SUBJECT 5.—*Half-yearly report of the Publicity and Propaganda Officer.*

The rapid strides that the Publicity and Propaganda Department of the Indian Central Cotton Committee had made, since the launching of the scheme in June 1932, were described in the report presented by the Publicity and Propaganda Officer at the half-yearly meeting of the Committee which took place in Bombay on the 28th and 29th August 1934. During the half year now under review, notwithstanding the fact that most of the Publicity Officer's time had been occupied with tours made in the districts in the United Provinces where experiments for the control of Pink Boll-Worm pest of cotton had been carried out, and the preparation of propaganda material for the proposed extension of control measures over the whole province, the general progress made in the publicity work in various branches, viz., exhibitions and fairs, press articles and advertisements, bulletins, broadcasting of information and the like—with a view to bringing home to the cotton growers and other interests concerned not only the results of cotton research undertaken on behalf of the Committee but common facts upon which their callings are based—practical, scientific and economic—was well maintained.

Wide Press Publicity.

The half year witnessed a growing demand for information as to the improvement effected in the quality and quantity of Indian cottons on the part of Indian and foreign bodies interested in the industry which has increased so materially during the past year that there is some evidence to show that Indian cottons are generally getting more popular, as a result of measures adopted to give wide publicity, and are in greater request in foreign countries than hitherto. Of vital importance, because of involving greater business possibilities, were the enquiries for commercial types of Sind cottons which were received from India and abroad, as the direct result of active publicity campaign in the Indian press, the object of which was to increase public interest in Indian growths and thus to stimulate demand for the wide range of these cottons which operated as an encouragement to further enquiries as the activities of the Committee become better known. As far as could be judged, the enquiries made were sound and serious.

It is pleasant to record that newspapers, which in the past paid little attention to the improvements in this principal crop of India, are now anxious to obtain the fullest information and give to the public a reasoned and accurate account of the activities of the Committee in the production and marketing of cotton. Up-to-date and accurate information circulated through leading Indian and foreign journals which have a wide circulation has already had the effect of stimulating Indian overseas trade with Great Britain and other Western countries. During the half year under review I wrote many articles both for the daily press and also for special numbers or Indian supplements, describing, at request, promotional activities of the Committee in the direction of research and extension of better varieties all over the country. In addition I have supplied from the Committee's Annual Reports a sufficient quantity of material for the press. Notes on cotton research, production, development and marketing have likewise been supplied to Indian merchants, Chambers of Commerce and numerous other organisations.

Exhibitions.

The Publicity Department participated in two Exhibitions. The first one was the *Agricultural Demonstration at Nanded*, organised by the Agricultural Department of the Hyderabad State which was held on the 30th November and 1st December 1934. A number of publications and "Jayawant" and "Luxmi" posters were supplied to the Cotton Research Botanist, Parbhani, for free distribution at the Show.

The *All-India Exhibition* which commenced on the 15th of December 1934 in Lahore served a unique opportunity for the broadcast of publicity information among the cultivators and zamindars. A large number of copies of the Committee's illustrated brochure making a comprehensive survey of the Committee's beneficent activities in Northern India and a sufficient number of other pamphlets, technological bulletins, leaflets and posters were supplied to the Director of Agriculture, Punjab, for free distribution to enquirers at the exhibition and elsewhere and this opportunity of approaching all classes of people was fully utilised by co-operating with the provincial Department of Agriculture in its enterprise.

Press Communiqués.

The following press communiqués were issued during the brief span of time while the Publicity Officer was able to remain at headquarters. Wide publicity was secured in the Indian and foreign presses.

1. *The Report of the 29th meeting of the Indian Central Cotton Committee.*—This press communiqué dealt with the most important subjects that came up for discussion at the last meeting of the Committee and the decisions taken thereon. The need of licensing gins and presses as an effective solution of the evil practices now existing in the cotton industry, the development of long staple cotton in the Barrage areas of Sind, the future policy of the Institute of Plant Industry were some of the main topics reviewed in the press communiqué.

"The war on watering of cotton" and the "Superiority of 1027 A.L.F. cotton over 1A cotton" were again recently reviewed by the press.

2. *Development of Cotton Growing in Sind.*—This was a review of the Annual Report of the Department of Agriculture, Sind, for the year 1932-33, which recorded the immense progress made in the development of cotton cultivation in Sind and the progress made by the various—Botanical, Physiological and Extension—schemes financed by the Indian Central Cotton Committee, which are directed towards cotton development and improvement in the Barrage areas.

3. *Development of Cambodia Cotton in Coimbatore District.*—This press communiqué gave a short account of the uninterrupted progress made, since 1919, in the development of Cambodia cotton in the Coimbatore district by the Department of Agriculture, Madras, and supplemented by the Seed Multiplication Scheme financed by the Indian Central Cotton Committee.

4. *Development of Cotton Cultivation in Central Provinces.*—This press note again was a review of the Annual Report of the Department of Agriculture, Central Provinces, for the year ending 31st March 1934, and it dealt with the important developments in the improvement of cotton cultivation in the Central Provinces such as the progressive expansion of the area under Verum cotton and the practical achievements of research into a number of problems vitally affecting the cotton industry, financed by the Indian Central Cotton Committee. It explained in brief the botanical research concerned with the testing and multiplication of the two new strains, late Verum and V. 434, and the marketing and extension of Verum cotton.

A press note was issued on "*Facilities for training at the Technological Laboratory, Matunga*", to bring to the notice of the public that the Technological Laboratory would admit this year two students for training in the elements of spinning and the routine methods of testing cotton fibre and yarn.

Pamphlets.

1. "*Pink Boll-worm Pest of Cotton and How to Control It*".—This is an illustrated, finely printed popular pamphlet in English specially prepared for propaganda work in the United Provinces, describing the Pink Boll-worm pest of cotton and how to control it. It deals with the life of the Pink Boll-worm and the injury to the cotton crop caused by the caterpillar larvæ of the moth, *Platyedra gossypiella*, which feeds upon the developing seed inside the cotton boll. Its illustrated pages give an account of the extent of damage done to the cotton crop by the Pink Boll-worm and the possibility of avoiding the loss that must result, by the timely adoption of preventive measures. Some 2,000 copies of this have been printed and are being used for the propaganda campaign in the United Provinces and a good number have been distributed among Directors of Agriculture and important trade and agricultural associations in India and abroad.

2. The pamphlet on "*Pink Boll-worm Pest of Cotton and How to Control It*" has also been published in the two vernaculars, Hindi and Urdu, the popular languages in the United Provinces. They are also being utilised for the Pink Boll-worm control campaign in the United Provinces.

3. "*Cotton Cultivation on the Indus Right Bank Areas*".—This Sindhi pamphlet is a translation of the English version published in the month of June 1934. Some 2,000 copies were sent to the Cotton Supervisor, Indus Right Bank, Dadu, for distribution among the cultivators of the area.

4. *Summary of the Proceedings of the last half yearly meeting of the Indian Central Cotton Committee.*

Posters.

The Department continued and extended the campaign of poster propaganda and publicity of which the first instances were recounted in the last progress report. During the period under review a striking ten coloured poster on the Pink Boll-worm pest of cotton was prepared in English specially for the propaganda campaign in the United Provinces. The poster is self-explanatory and deals with the subject which the special pamphlet illustrated. It shows eight small pictures arranged in the margin dealing with the life history and development of the Pink Boll-worm as also the damage done to the cotton crop by this pest. The central picture is designed to show two cultivators with cart loads of *kapas*—one stained and the other of good quality, uninfected by the Pink Boll-worm. There are two buyers also and the conversation between the one cultivator and the buyer and the other pair draws attention to the urgency of heating the cotton-seed in a language clear and simple. The poster is sure to evoke great interest among the cultivators and the educative value attached to it is bound to have its utmost effect on the rustic mind.

Hindi and Urdu versions of the poster have also been prepared. Spare copies will be distributed among the Directors of Agriculture and Indian and foreign associations, interested in the development of cotton cultivation in India.

Tours.

A large portion of the Publicity Officer's time during this short period of five months has been devoted to the work of Pink Boll-worm control in the United Provinces. In pursuance of the decision taken at the last half-yearly meeting of the Committee, the Publicity Officer made two tours in the United Provinces each lasting for nearly three weeks. During the first visit he studied the effect of the Pink Boll-worm control on the cotton crop in the particular areas and the adjacent uncontrolled plots, and the second was devoted to the study by first hand experience of the results seen at the commencement of the harvest, and to gain the confidence of the cultivators. He further investigated the reasons which call for the introduction of an Act having as its object the extension of the Pink Boll-worm control measures in the United Provinces. His present tour, which is to last for three months, is in progress and is devoted to propaganda and enquiry into the control of the Pink Boll-worm pest of cotton in the province. Extensive tours, associated with heavy programme of engagements are being made. The campaign is gathering strength and by the time the next half-yearly meeting of the Committee takes place, scores of meetings shall have been held, calling attention to the startling effects of heat-treatment of the seed, mobilising public opinion on the side of control measures and to find out the strength of public feeling as to which of the alternative cesses proposed by the Department of Agriculture shall be more acceptable. The rapid progress has been in a great measure due to the help and assistance given to the Publicity Officer by the Entomologist to the Government of the United Provinces, Cawnpore.

A report, in this connection, will be submitted to the Committee in due course.

Owing to the pressure of work in connection with the preparation of propaganda material for the Pink Boll-worm campaign in the United Provinces, the Publicity Officer's time is fully occupied, and hence he regrets his inability to take advantage of the invitations received from Central Provinces, Surat, Nanded, Punjab and Baroda. For similar reasons the printing of such pamphlets entitled "The Indian Central Cotton Committee: Its Objects, Activities and Achievements", "Development of Cotton Growing in Madras" and "The Boll-worm Clean-up Scheme in Gujerat" could not be accomplished, though the preparation of the text was nearly complete. These will now be carried over to the next half-year.

APPENDIX II.

SUBJECT 6.—*System of marking bales—Reference from the International Federation of Master Cotton Spinners' and Manufacturers' Associations.*

Secretary's Note.

In April last, the International Federation reported to the Committee that one of their affiliated German Associations complained that impurities and oil spots were found in Indian cotton, adding at the same time that they were not able to furnish the press marks of the bales complained of as no press marks were traceable on the bands. The Association were informed that it was now permissible to put the press marks on the hessian

covering of bales to which they replied that press marks on the hessian were liable to be inadvertently cut out by samplers thus leaving no marks of identification on the bales.

The following letter from the International Federation of Master Cotton Spinners' and Manufacturers' Associations, conveying a resolution of their Committee requesting the reinstatement of the old rule requiring the press mark to be stamped on the hoop has now been received and is for consideration :—

"Copy of letter, dated the 16th November 1934, from the General Secretary, The International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT.—*The marking of Indian cotton bales.*

Your letters of the 15th June, 27th July and 10th August of this year were placed before my Committee at a recent meeting in Berlin, and the question of the marking of Indian cotton bales was fully discussed.

The following resolution was finally unanimously adopted :—

'This Committee of the International Federation of Master Cotton Spinners' and Manufacturers' Associations regrets to learn that it is now lawful for the press mark on Indian cotton bales to be merely stencilled on the hessian cover, and that it is no longer obligatory to stamp the press mark on the hoop.

It notes that instances have arisen in which no press mark has been stencilled on the hessian cover, such marks obviously having been removed during the act of sampling. In the opinion of the Committee, it is impossible for spinner, in the absence of the press mark, to trace back the bale to the press.

It, therefore, respectfully requests the Indian Central Cotton Committee to press for the reinstatement of the law, requiring press-owners to stamp indelibly the press mark upon the baling hoop.'

My Committee is anxious that this matter should receive the earnest consideration of your organisation, and trusts that it will see its way to press for the re-enactment of the law, requiring press-owners to use baling hoops with the press mark indelibly stamped thereon.'

Originally Rule 7 of the Cotton Ginning and Pressing Factories Rules required the press mark and the two digits denoting the cotton year to be indelibly punched or stamped on the hoop, but in August 1929 the Government of India amended the rule allowing the press-mark and the two digits denoting the cotton year to be stencilled in ink on the hessian on the lashed side of a bale.

The Rule was amended at the request of the Committee on the representation of the East India Cotton Association who drew attention to cases of hardships and losses incurred by Bombay merchants because of bales being rejected in arbitration for faults in marking. The chief complaint was that the method of marking as laid down in the original rule was so meticulous that the East India Cotton Association arbitrators had no option but to reject any bales not marked strictly in accordance with the rule though the cotton was in all other respects a fair tender and even at times carrying an "on" allowance. It was also pointed out that the Act was being exploited by merchants when the market was going against them and that they took advantage of the technical provisions of the Act to evade accepting a tender when it suited them to do so.

APPENDIX III.

SUBJECT 7.—*Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee.*

Secretary's Note.

The attached letter and enclosure received from the Chairman, Lancashire Indian Cotton Committee, regarding the mixing at the ginnery of different types of Indian cotton are for consideration.

At present there is no legislation in India which can effectively put a stop to this malpractice of mixing.

As its meeting held in August 1933 the Committee passed a resolution reaffirming its resolution of 1924 and recommending to the Government of India that the Cotton Ginning and Pressing Factories Act should contain a clause providing for the licensing of cotton ginning and pressing factories and that this clause should be made operative in each province by resolution of the Provincial Legislative Council. The Committee again in August 1934 passed a resolution drawing the attention of the Government of India to its previous year's resolution and calling for immediate action in view of the dangerous increase in the evil of watering. The matter is still under the consideration of the Government of India.

It is hoped that the introduction of a system of licensing ginning and pressing factories will prove an effective remedy for malpractices such as mixing and watering as factories found guilty of such malpractices would render themselves liable to have their licenses either withdrawn or suspended as the case may be.

Copy of letter dated the 23rd November 1934, from the Chairman, Lancashire Indian Cotton Committee, 333-350, The Royal Exchange, Manchester, 2, to the Secretary, Indian Central Cotton Committee, Bombay.

As you are aware the mixing at the ginnery of different types of Indian cotton has given considerable trouble to users in this Country, and is proving a very serious hindrance to my Committee's work, to make the growth more popular as when we get some prospective user to try Indian cotton he is disgusted if he gets a bad lot, and will not look at it again for some time. The allegation of the ginners and shippers that the mixing is done to meet the wishes of Spinners is only a half truth and, therefore, more difficult to combat than a definite false statement. The fact is that many Shippers make up types containing various percentages of mixture, and offer them, asking a lower price for those containing a larger percentage of *Desi*. The *Desi*, as you know, is very difficult to detect but the effect in the spinning is most disastrous. Whereas, from the pure 4F a good 16's to 18's can easily be spun, the mixtures very soon pull down the possible counts to 12's or even less.

We know that you are doing your best to stop the practice, but this year some awful stuff has been shipped; big allowances have been given in arbitration, and several lots have been rejected, this must have meant a considerable loss to the Shippers, but the position of the Spinner who has had to accept some of the rubbish is very difficult indeed.

Attached is a copy of a letter received from a Spinner who knows his work thoroughly, and also some details of the results of tests made from reputed pure and mixed cottons. From these it will be seen that the pure cottons can be used for quite a different purpose and for much higher counts than the mixed. In fact, in the case of the pure cotton it easily gets into what, when I was in India, I called the world market, whilst the mixed remains in the restricted market in competition with poor Central Provinces styles and Bengal. Of these latter the supply is already greater than the effective demand and greater production of these quantities will only intensify the difficulty of the situation. Even if Lancashire continued to increase her takings of these shorter stapled cottons, as she has done this year, the difficulty will not be diminished if the supply of the shorter staples is increased.

In conclusion, may I say that if the cotton can be grown, ginned and shipped pure, and so long as the present parity with American continues in favour of Indian there is a practically unlimited demand for it; but the encouragement for permanently increased trade will depend on the regularity of the staple and type but obviously the practice of mixing is the enemy.

Copy of letter from a spinner.

"Your attention has probably been drawn to the marked deterioration of S. G. American Seed cotton during the past few years.

We have been large users of this and other types of Indian cotton for many years, and it is possible that our experience of this class of cotton may be of some service to you.

A few years ago, 1928-29, we obtained excellent results from S. G. American Seed. When spun into 16's counts we obtained alea strength of 112 lbs., which is fully equal to a good quality of American Bowedds. Apart from a tendency to neppiness, the cotton could compete on almost equal terms with American and would find a huge market in Lancashire once its qualities became known. Unfortunately the quality was not maintained. In 1933, the strength we could obtain from 16's counts had dropped to below 100 lbs., in some cases to 90 lbs.

This year we have had a disastrous experience. We bought two types of S. G. American Seed, from two well-known shippers. The better one of the two showed a strength of 95 lbs., and the poorer one actually fell to 72 lbs., which was so bad as to be quite useless for our purpose.

It is, of course, well known that it has become the practice in India to adulterate S. G. American Seed cotton with *Desi* cotton and this of course is the reason for the above falling off in strength.

We submitted the two cottons referred to, to the Shirley Institute for analysis, and both show a definite mixture, in one case comparatively small but in the second case very heavy. The Institute do not themselves make any estimate of the amount of adulteration, but the figures given in connection with hairweight tests justify our estimate that in the second case the adulteration amounts to 50 per cent. or more.

As it is almost impossible to detect the adulteration by a hand examination, this is a very serious matter. (In the Liverpool arbitration on this cotton we were allowed only 3 points). The extreme difficulty of detecting even such a glaring adulteration as this leaves the buyer open to what can only be classed as outrageous swindling.

Probably many other spinners have had similar experiences this year and no doubt they, like ourselves, will be very chary about buying S. G. American seed cotton in future.

The shippers admit frankly that the mixing does take place, and defend the practice by stating that *the spinner does not object as it reduces the price*. A more ridiculous statement could hardly be made, as the spinner, if he desires, can do his own mixing and will then know exactly what he is using. We have endeavoured to find a shipper of standing, who will sell S. G. American Seed under a guarantee of purity and have been unable to find one.

We suggest that this is a matter that your Committee should deal with. If it is hoped to increase the use of Indian cotton in Lancashire, every possible step should be taken to stop the mixing of cottons in this way. If allowed to continue, it can only lead to complete loss of confidence in Indian cotton."

Reproduced from a Shirley Institute Publication, June 1934.

SPINNING TESTS ON INDIAN COTTONS FROM THE PUNJAB.

Samples of characteristic types of Indian cotton have recently been spun and tested at the Institute for the Lancashire Indian Cotton Committee. The varieties represented were: Punjab-American 4F—one sample from the Director of Agriculture, Punjab, and two from the B.C.G.A. (Punjab) Ltd., Punjab-American 289F, and two improved Punjab *desi* cottons, Mollisoni and Sanguineum, from the Director of Agriculture, Punjab.

Punjab-American 4F is a Government selection from acclimatised Punjab-American cotton descended from an Upland cotton having its origin in Georgia, U.S.A. 4F is grown widely in the canal colonies of the Punjab, and also in Sind, where increasing quantities are being grown as a result of the extension of the canal system and the complete control of the irrigation following the completion of the Sukkur Barrage in 1932. The average crop of Punjab-American cotton (including 289F) over the years 1929-33 was about a quarter of a million bales of 400 lbs.; the Government estimate of the total Indian crop for the same period averaged rather less than 5 million bales.

The comparative merits of the three samples of 4F may be gauged from the brokers' valuations and the test results given in the following tables:—

Description.	Broker's report and valuation.			Fibre test results.			
	Classification.	Staple.	Value (nominal).	Effective length (32nds inch).	Immaturity		Hair-weight per cm. (10 ⁻⁵ mgm.).
					Normal hairs.	Dead hairs.	
					Per cent.	Per cent.	
B. C. G. A. (Punjab) Selected type.	Roller ginned, bright, good colour, some leaf.	$\frac{3}{4}$ " to 1" strong.	80 off.	29	54	14	219
B. C. G. A. (Punjab) Farm type.	Roller ginned, bright, good colour, some leaf.	$\frac{3}{4}$ " to $\frac{7}{8}$ "	90 off.	28	61	10	220
Dept. of Agriculture (Punjab).	Roller ginned, rather dull, good colour, leafy.	$\frac{1}{2}$ " to about $\frac{3}{4}$ " silky.	120 off.	27	29	38	160

Description.	Spinning test results.					
	Lea count-strength product			Ballistic count-work product		
	16's	20's	24's	16's	20's	24's
B. C. G. A. (Punjab) Selected type	2120	1012	1706	2718	2497	2261
B. C. G. A. (Punjab) Farm type ..	2036	1704	1666	2667	2521	2083
Dept. of Agriculture (Punjab) ..	2094	1952	1823	3302	3068	2615

(The 16's was spun from 2·5 hank roving and the 20's and 24's were spun from 3·5 hank roving ; a twist-factor 4 was used in each case.)

From these results it is clear that the two samples from the B.C.G.A. (Punjab) Ltd. were very similar in fibre characters, though the Selected type was slightly longer, and gave rather better results in spinning than the Farm type. The sample from the Department of Agriculture was of a quite different character, being very immature and having an abnormally low hair-weight, besides being slightly shorter than the other two samples. The low hair-weight, which was no doubt responsible for its silky feel, was possibly a consequence of an inadequate water supply during its growth.

It is such differences as these, arising from perfectly natural causes, that make it difficult, if not impossible, at present to determine the percentage of Punjab-American cotton present in a mixture of this cotton with *desi* cotton, unless pure samples of each of the two cottons are also available. The sample from the Department gave the best results in spinning, and it is estimated that in 30's counts it would give a lea strength of 54 lbs., the Selected type 51 lbs. and the Farm type 48 lbs. Such strengths are decidedly higher than are normally obtained for this cotton, which is usually regarded as not suitable for warp yarns of higher counts than 24's.

Punjab-American 289F is a superior Government selection from Punjab-American cotton, and has an average staple of about $1\frac{1}{8}$ ". The crop (which is included in the figures given above for Punjab-American) amounts only to a few thousand bales, and is grown almost entirely under the auspices of the B.C.G.A. (Punjab) Ltd.

The broker's report on this sample was as follows: "Roller ginned, rather dull; creamy colour, slight stain and leaf. Staple full $1\frac{1}{8}$ ", silky, and fairly strong. Nominal value, 30 on."

The sample sent had an effective length of 36 thirty-seconds of an inch, percentage of normal hairs 45, percentage of dead hairs 14, and hair-weight per centimetre 130.

It was spun to 20's and 24's from 3·5 hank single roving, and to 32's and 40's from 8 hank double roving, the twist-factor in each case being 4·0. Spinning was good and yarn strength high in all the counts, lea count-strength products being 2589 in 20's, 2567 in 24's, 2574 in 32's and 2448 in 40's. These results indicate that this particular sample of cotton is suitable for at least 50's, and is superior in spinning quality to a standard Mississippi and about equal to an Uppers spun at the Institute under similar conditions. At the same time it may be mentioned that this cotton has not usually been regarded as suitable for warp counts above 44's.

Mollisoni is a native type, an improved Bengals, grown in the Punjab. The average crop of Bengals in Sind/Punjab is about half a million bales of 400 lbs. The broker's report on this cotton was as follows:—

"Roller ginned, bright, creamy colour, some leaf. Staple about $\frac{1}{2}$ ", wasty. Nominal value, 175 off."

The sample tested had an effective length of 24 thirty-seconds of an inch, percentage of normal hairs 71, percentage of dead hairs 6, mean hair-weight per centimetre 323. It was spun to 8's and 10's from 2 hank single roving with twist-factors 4·0 and 5·0. Spinning breakages were numerous in the 10's spinning with the lower twist-factor, and the strengths of the yarns in both counts with the twist-factor 4·0 were low, count-strength products being about 700. With a twist-factor of 5·0, however, the strengths were practically twice as great, count-strength products being 1421 in 8's and 1306 in 10's. It is clear that this sample was not really suitable for warp counts above 8's, but it has the merit of being clean, waste losses in both the scutcher and card being below normal for Indian cottons.

Sanguineum is another type of Bengals cotton grown principally in the south-east districts of the Punjab; the type sent has only recently been selected and is slightly longer and considerably finer than the Mollisoni sample. The broker's report on this cotton was as follows :—

“Roller ginned, bright, good colour, some leaf. Staple 5/8”, strong, rather rough. Nominal value, 110 off”.

The sample tested gave a value of 27 thirty-seconds of an inch for effective length, 73 per cent. normal hairs, 3 per cent. dead hairs, and 272 for mean-hair-weight per centimetre. It was spun to 16's from 2 hank single roving, and to 12's and 16's from 2.5 hank single roving, with twist-factors 4.0 and 5.0. As in the case of the Mollisoni sample, the yarns spun with the higher twist-factor were much stronger than those spun with the lower twist-factor, count-strength products for twist-factor 4.0 being 1569 in 10's, 1343 in 12's and 1417 in 16's, whilst for twist-factor 5.0 the values were 1959 in 10's, 1998 in 12's, and 1734 in 16's. This sample, like the Mollisoni sample, was very clean, and gave low waste losses in scutcher and card. The results indicate that it is suitable for spinning up to 19's count with a twist-factor of 4.0.

APPENDIX IV.

SUBJECT 14.—*Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton.*

The Sub-Committee met at 3 p.m. on Thursday, the 31st January 1935.

In furtherance of the wishes of the full Committee to retain this Sub-Committee as a permanent one, the Sub-Committee recommends that, as in the case of other Sub-Committees, the members of this Sub-Committee might also be nominated annually.

It is also recommended that the Hyderabad State, which hitherto has not been represented on this Sub-Committee, may, in future, be represented by the Director of Agriculture.

The Sub-Committee considered a request from His Exalted Highness the Nizam's Government for arranging for spinning tests, in Lancashire, on Hyderabad Gaorani cotton. The Sub-Committee recommends that His Exalted Highness the Nizam's Government may be informed that the Indian Central Cotton Committee will have no objection to take necessary action in the matter, provided there is any exportable surplus of this cotton.

The Sub-Committee is glad to note that arrangements have been made by the Board of Trade of the United Kingdom to collect from 1935 statistics relating to the production of coarse yarn in the United Kingdom. As regards similar statistics for the rest of the world excluding Japan, India and the United States of America, for which statistics are already available, the Sub-Committee recommends that, in view of the inability of the International Federation to arrange for these statistics, the Secretary might try and collect this information from individual mills and statistical bureaus in the respective countries, and the Imperial Council of Agricultural Research from the Trade Commissioners at Hamburg, Milan and London for the Continental countries with which they are concerned.

A proposal to offer a big prize for the invention of machinery, which would spin $\frac{1}{8}$ ” staple cotton into 20's counts yarn and above was considered by the Sub-Committee in all its aspects. It was finally decided that for the present the proposal might be dropped.

The Sub-Committee considered the report on the work done by the Director Technological Laboratory, during his leave and deputation in Europe, and made the following recommendations thereon :—

(a) That the question (1) of the preparation, by the scholars sent abroad by the Committee for higher studies, of complete bibliographies of their special subjects with the help of the material readily available in the Library of the International Institute of Agriculture, Rome, and (2) of sending students for training in physical and chemical methods of testing vegetable fibres and their products at the Milan Experimental Station be referred to the Technological Research Sub-Committee for consideration and report,

(b) that the question of holding in India conferences on cotton growing problems on the lines of the conferences arranged for by the Empire Cotton Growing Corporation be referred to the Technological Research Sub-Committee and Agricultural Research Sub-Committee for consideration and report,

(c) that the suggested method of popularising Indian cotton among manufacturers of woollen goods in England and on the Continent by supplying fibre particulars and small samples of suitable cottons to them might, for the purposes of stimulating consumption of short staple Indian cotton in these countries, be resorted to, when necessary, and

(d) that the Director, Technological Laboratory, in consultation with Mr. Short, might arrange for giving publicity in England to the spinning qualities of Indian cotton.

The Sub-Committee also considered the following subjects which are on the Agenda of the full Committee :—

Tariff and other restrictions affecting the market for Indian cotton in foreign countries (No. 15).

Ceylon.—The Sub-Committee recommends that the Government of India be requested to try and get the existing 5 per cent. *ad valorem* duty on Indian cotton imported into Ceylon abolished, when the Government of Ceylon approaches the Government of India for a like concession with regard to goods of Ceylonese origin imported into India.

Australia.—Some 10 to 12 thousand bales of long staple cotton are at present produced in Australia under very uneconomic conditions. The Commonwealth, being, however, for various reasons, anxious to protect this small industry, not only has heavily to subsidize the growers but also is obliged to sell this cotton to Australian spinners at world prices for short-staple cotton, as Australian mills require only short-staple cotton. Sir Richard Jackson has therefore proposed that a tripartite arrangement might be entered into between the Commonwealth, India and the United Kingdom, under which Australian long-staple cotton may be sent to Lancashire mills and Indian short-staple cotton may be taken instead by Australian mills on mutually beneficial conditions. The Sub-Committee approves of the action taken by the Vice-President in communicating to Sir Richard India's goodwill toward the proposal.

Germany.—The Sub-Committee urges that a strong representation be made to the Government of India drawing their attention to the great disability of German importers of Indian raw cotton in securing exchange to import Indian cotton. Unless steps were taken by India to remove this handicap early, India may soon lose the German market, particularly because it is understood that strenuous efforts are being made in Germany to produce synthetic cotton from raw material available in the country.

China.—The Sub-Committee doubts whether all cotton shown in Indian export statistics as having been exported to China is meant for actual consumption in China. After ascertaining this point, Government of India should be asked to negotiate with the Government of China to get the specific duty now levied on cotton imported into China changed into an *ad valorem* duty.

Proposed negotiations with Italy on Indo-Italian Trade Relations (No. 16).

The Sub-Committee strongly recommends that when the proposed negotiations with Italy commence, the attention of the Government of India may be drawn to the unfairness to Indian cotton of the nominally *ad valorem* but virtually specific duty of Lire 60.00 per quintal levied on all cottons imported into Italy.

Possibility of growing long-staple cotton in the present short-staple cotton areas of India (No. 17).

The Sub-Committee recommends that this subject be referred to the Agricultural Research Sub-Committee for consideration and report.

APPENDIX V.

SUBJECT 18.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Sub-Committee met at 3 p.m. on Sunday, the 3rd February 1935.

Since the work of compiling and publishing the cotton forecasts of Sind has recently been transferred to the Chief Agricultural Officer, Sind, the Sub-Committee recommends that he be appointed as a member of the Sub-Committee.

The Sub-Committee examined the reports of enquiries into the village consumption of cotton in the Punjab, Bombay Presidency Proper, and Baroda State, and decided that the detailed examination and fuller discussion of these reports might be taken up, when reports on the enquiries in other areas are also in. In the meanwhile, the Provincial Officer in charge of the Bombay Cotton Forecast Improvement Scheme has undertaken to ascertain if any information regarding the consumption of cotton for domestic purposes in the City of Bombay is available from any of the economic enquiries carried out in the past.

The Sub-Committee noted the action taken by the various provincial and State authorities on the recommendations made by it, after a critical examination of the cotton forecasts of 1932-33 season. As regards Central Provinces and Berar, the Sub-Committee further recommends that the Director of Industries be requested to arrange for separate market figures which would be useful for ascertaining the import of cotton into the province from neighbouring States and provinces. As Gwalior State is the only State in India from which press returns are not yet available, it is suggested that the Gwalior Darbar should be expedited, through the Government of India, to institute press returns at an early date.

The statement given in Enclosure I to the note on Subject 19 of the agenda of the Indian Central Cotton Committee meeting could be further improved by incorporating the figures put in by the Deputy Director of Statistics, regarding coast-wise cotton imports into, and exports from, each of the major trade blocks on the sea-board. The Sub-Committee, therefore, recommends that a re-draft of this statement may be prepared and circulated to members for critical examination.

In a note*, placed before the Sub-Committee, comparing the final cotton forecast of the Bombay Presidency with press returns, the Director of Agriculture has drawn attention to the fact that several cotton-growing States in Kathiawar are not furnishing press returns. The Sub-Committee therefore recommends that the Provincial Officer in charge, Bombay Cotton Forecast Improvement Scheme, might, when visiting these States, ascertain where the cotton produced in these States is ginned and pressed. The Secretary might also write to the Agent to the Governor-General in Western India States to get press returns instituted in such States as have pressing factories and yet have not introduced legislation on the lines of the Cotton Ginning and Pressing Factories Act.

The Sub-Committee recommends that in publishing the figures for stocks held by the trade and the mills on the 31st August, the sources of the figures should be indicated, and that such of the figures as are not strictly comparable should be omitted.

APPENDIX VI.

SUBJECT 24.—*Report of the Agricultural Research Sub-Committee.*

The Agricultural Research Sub-Committee met at 11 a.m. on Friday, the 1st February 1935, and divided itself into Sectional Sub-Committees for detailed examination and report.

The reports submitted by the Sectional Sub-Committees were considered at the plenary sitting of the Sub-Committee on the 2nd February 1935.

A.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON EXTENSIONS OF EXISTING SCHEMES.

Madras Pempheres and Physiological Research Scheme (No. 27).—The Sub-Committee, considered the report of the small Sub-Committee consisting of Messrs. Burt Ramamurty, Hutchinson and Ramanathan. As the pempheres problem could not be dealt with by the application of the Madras Pest Act alone, work on other means of controlling the pest is necessary. It was agreed that the breeding work is of the greatest importance. The recommendations under paragraphs 3 and 10 concerning survey of the incidence of the insect and a study of possible parasites were agreed to subject to the provisos that:—

(1) the fullest possible information concerning likely foreign parasites and the chances of obtaining such parasites, if none are at present known, should first be obtained from Farnham House, and

* Not placed before Indian Central Cotton Committee.

(2) the Entomological Section of the Department of Agriculture, Madras, agrees to spend considerable time on the study of the distribution of the insect in the Madras Presidency.

The word "physiological" in paragraph 4 should be omitted leaving only "work on the mechanism of recovery." Similarly in paragraph 5, reference to the elements copper and thallium should be deleted leaving the officers in charge free to examine any elements which work in other parts of the world has shown to be possibly useful.

The recommendations with regard to the physiological scheme were agreed to. The list of apparatus submitted for the bio-chemical work was agreed to and while this is expected to be complete for the bio-chemical work, the Sub-Committee pointed out that those in charge of the scheme were at liberty to put up a supplementary list of apparatus required for the entomological work, provided that they do not thereby exceed the total sanctioned budget.

The scheme, as now modified, is recommended for acceptance, provided that the total cost does not exceed the sanctioned amount of Rs. 1,64,875.

The memorial from Mr. Dharma Rajulu on the subject of his regrading by the Madras Government should be dealt with by the Standing Finance Sub-Committee when the orders of the Madras Government on his memorial have been passed.

Madras Herbaceum Scheme (No. 28).—The Sub-Committee considered the inspection report submitted by Messrs. Hutchinson and Reddi, and recommends that the scheme be extended for a further period of three years from the 1st June 1935, on the grounds (a) that the very promising strains from Cross I must be tested further; otherwise past expenditure would be wasted, and (b) that the programme in respect of Crosses II and III is also promising of success in view of the new weapon recently placed in the hands of plant breeders, namely, the "back-crossing" technique evolved as the result of academic research in genetics. The estimated cost of the scheme for the period of extension is Rs. 28,765. The Sub-Committee also recommends that an additional allotment of Rs. 2,040 be made for expenditure up to 31st May 1935.

Madras Nadam Cotton Breeding Scheme (No. 29).—The Sub-Committee accepted the views expressed by Messrs. Hutchinson and Reddi in their inspection report that it is too early to assess the work done in this scheme. The Sub-Committee recommends the continuance of the scheme, though it is felt that the problem to be solved presents great difficulty.

Punjab Root Rot Scheme (No. 30).—The Sub-Committee recommends that this scheme be extended for a further period of three years from the 1st September 1935 at an estimated cost of Rs. 28,700 including the provision for Provident Fund and leave salary, subject to the following modifications in the programme:—

(1) that item No. 3 should be deleted, (2) that in item No. 1, the phrase "mode of infection" should be replaced by "mode of carry-over of the disease" and (3) that the rest of that item should be confined to discovering what other plants are attacked by the disease.

It was felt that emphasis should be applied to items 2 and 4 which could be treated as one.

It is understood that the Punjab Department of Agriculture would continue to make selections of apparently resistant plants in economic cottons and to subject these selections and others which might be made for economic purposes to root-rot resistance tests.

The Sub-Committee further recommends that the officers in charge of the Punjab and Baroda Root Rot Schemes should prepare quarterly progress reports and programmes of work and exchange these between them sending at the same time copy to the Secretary for information.

It is also recommended that officers in charge of Committee's schemes investigating the same problem in different parts of India might be allowed to pay annual visits to each other, with the prior approval of the Agricultural Research Sub-Committee, and travelling allowance in such cases being borne by the Committee. The Sub-Committee recommends that in accordance with this principle the officers in charge of the Punjab and Baroda Root Rot Schemes be allowed to see each other's work once during the year 1935.

Punjab Botanical Scheme (No. 31).—In recommending the extension of this scheme the Sub-Committee suggests that the principle may be laid down that Provincial Governments should accept increasing financial responsibility for such schemes as at the end of their sanctioned periods are found to have produced results of definite value, in order that the burden on the Committee may be relieved.

The Assistant Physiologist and the temporary Laboratory Keeper attached to him should be deleted from this scheme. The physiological part of the programme will accordingly not be tackled in the botanical scheme. As the staff of the botanical scheme will be reduced by the abolition of the post of the Assistant Physiologist, the fresh Assistant to be posted to Mooltan should be allowed. The Director of Agriculture of the Punjab corrected the figures of changes of pay given on page 1 of the Secretary's note. Only normal increments will be given. The scheme is recommended for continuation for five years subject to the Punjab Government accepting the responsibility for an increased share of the cost of the scheme. It was pointed out that as the budget for the forthcoming year has already been submitted to the Government, it will not be possible for the Department to finance a larger share until 1936-37. It is accordingly recommended that the scheme be sanctioned as submitted for the year 1935-36 and that for the four subsequent years, the Committee should offer to pay half the cost of the scheme after deleting the cost of all supplies and services. This will mean roughly Rs. 39,000 in 1935-36 and Rs. 31,000 in each of the four following years, making approximately Rs. 1,63,000 in all.

Punjab Spraying Trials Scheme (No. 32).—The Sub-Committee considered the proposals for an extension of this scheme submitted by the Director of Agriculture, and recommends that the scheme be extended for a period of one year only at an estimated net cost of Rs. 1,900. The actual work of the scheme should be postponed till a year of really bad White Fly attack, and should as far as possible be conducted in replicated plots so as to get reliable results concerning the effect of the treatment on yield.

B.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW RESEARCH SCHEMES.

Mysore "Red Leaf Blight" Scheme (No. 33).—As decided at the last meeting the Sub-Committee considered the information collected from all over India regarding the incidence and the symptoms of, and the work so far done on this disease. The information collected shows that a considerable amount of work on the problem is in progress in Sind and at Indore and that more work will be carried on upon it under the Physiological Scheme in the Punjab. It is, however, agreed that however successful the work might be in Northern India, Mysore problems would have to be solved in Mysore. As results will shortly be available from Indore and also from Sind, and as the crop at present grown in Mysore is comparatively small, work on the chemical, entomological and mycological sections of the scheme is unnecessary. The Sub-Committee recommends that a grant of Rs. 2,814 per annum for three years be sanctioned to allow of an expansion of breeding work. The rest of the programme should be postponed for consideration on receipt of results of work at present in progress in other parts of India.

C.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW SEED SCHEMES.

Revised Jayawant and Gadag-1 Seed Scheme (No. 25).—The Sub-Committee considered and did not approve the revised and extended seed multiplication and distribution scheme for Jayawant and Gadag-1 cottons submitted by the Director of Agriculture, Bombay Presidency, to take the place of the existing schemes.

The Sub-Committee, however, recommends that the existing arrangement for subsidising the Hubli and Gadag Co-operative Societies be continued for one more year at the present rate during which time the Director of Agriculture, Bombay Presidency, would take into consideration all the criticisms of the present scheme and put up something likely to be more acceptable to the Indian Central Cotton Committee. The amount required for continuing the existing arrangement for one year would be about Rs. 19,000.

It was also agreed that for the years 1934-35 and 1935-36 the audit of the accounts of these schemes should be done by the auditors of the Bombay Agricultural Department. The Athani Scheme which has already been sanctioned for five years and is in existence for three years will not be affected by this decision.

D.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON COMPLETED SCHEMES.

Scheme for the Survey of Small Leaf Disease of cotton in the Bombay Presidency.—The Sub-Committee recommends the publication of this report in whichever Journal of the Imperial Council of Agricultural Research the Editorial Board might decide. There is no objection to this being later re-produced in the Poona Agricultural College Magazine.

In view of the existing evidence that the incidence of the disease is greater on Government farms than elsewhere, the Sub-Committee suggests that the statistics presented should be arranged so as to distinguish between Government farms and cultivators' fields. Further attention is drawn to the apparent discrepancy between the table on page 1 of the Report, that on page 2 and the statement at the foot of page 3 in respect of the survey in the Ahmedabad district. The report might be condensed before publication.

*Scheme for Survey of Disease of Malformation in Punjab-American cotton (No. 26).—*The Sub-Committee recommends that this report, after condensation, be sent up to the Imperial Council of Agricultural Research for publication in any of the Journals the Editorial Board might decide.

E.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON RESEARCH STUDENTS.

(1) *Programmes of work.*—The Sub-Committee considered and approved the programmes of work for 1934-35 of the following research students :—

(a) *Mr. Nazir Ahmad*, taking a course in Ph.D. (Entomology) at the Imperial College of Science and Technology, London.

(b) *Mr. G. B. Patel*, taking an advanced course in Cotton Breeding in the United States and Trinidad.

(c) *Mr. C. Jagannatha Rao*, under training in Cotton Physiology under Dr. Ekambaram.

(2) *Progress Reports.*—The progress reports on the work done by the following research students were considered and approved :—

(a) *Mr. Sant Singh Verma*, undergoing training in Plant Physiology at the Imperial College of Science and Technology, London.

(b) *Mr. Taskhir Ahmad*, taking a course of study and research in Entomology at the Zoological Laboratory, Cambridge University.

(c) *Mr. Shama Iyengar*, who has been sent for higher study in Agricultural Chemistry in Hungary, England and Egypt.

(3) *Final Report.*—The Sub-Committee also considered the final report submitted by Mr. Madan Lal Bhatia, on the Bionomics and control of *Empoasca devastans*, and decided that it should be filed as it is not fit for publication.

F.—GENERAL.

Hyderabad Botanical Research Scheme.—At its last meeting the Sub-Committee, when considering the programme of work of this scheme for 1934-35, commented that the projected growing of 100 hybrid progenies each of F_2 and F_3 generations was too much to be attempted without detriment to the rest of the programme.

Rai Saheb Kalidas Sawhney explained that from the F_2 generation only 50 plants were being retained and that no detailed work was being done on the F_3 generation. Since the actual work was in this way so much reduced the Sub-Committee saw no objection to permitting this item in the Hyderabad Botanical Scheme to stand.

Appointment of Provincial Committees to supervise schemes.—This question, which had been referred to the Sub-Committee from the August 1934 meeting of the Indian Central Cotton Committee, was considered by the Sub-Committee in all its aspects. The Sub-Committee feels that the existing Provincial and Divisional Cotton Committees could discharge this function adequately, and no new Committees need be created for the purpose.

More rapid multiplication of New Varieties.—Mr. W. Roberts' proposal suggesting the possibilities of more rapid multiplication of new varieties by trying to get two successive crops raised in the same year in different parts of India was considered, but found unacceptable to the Sub-Committee.

Punjab Pink and Spotted Boll-worm.—When considering at its last meeting the progress report for 1933-34 of the above scheme, the Sub-Committee asked for the actual results obtained from the 40 stations where the incidence of the pest was ascertained by examining green bolls. These results have now been submitted and approved by the Sub-Committee. It is, however, suggested that in reporting similar data, in future, one or more datum points should be given such as date of first picking or date of first flowering in order to establish points of comparison between results from different tracts. The Director of Agriculture, Punjab, brought to the notice of the Sub-Committee a

resolution passed on its recommendation at the previous meeting requesting that the investigation of the effect of environment on the life cycle of spotted boll-worm should be omitted. The Entomologist to the Government of the Punjab felt that this recommendation was cramping his work and suggested that it might be reconsidered. The Sub-Committee wishes to make it clear that it was to the study of the effect of laboratory conditions on the life cycle to which it objected.

Co-ordination of the Hyderabad and Central Provinces Entomological Schemes.—In furtherance of the approved object of co-ordinating the work done in these schemes, the Director of Agriculture, Central Provinces, asked for the appointment of an extra fieldman on Rs. 25 for working out the incidence of the Pink Boll-worm in those parts of Berar adjoining the Nizam's Dominions. The Sub-Committee recommends that this proposal be approved, as its cost can be met from savings accrued from the sanctioned grant.

The Sub-Committee recommends that both schemes should be considered further next July on the basis of reports to be rendered up to the end of June 1935, such reports to include work done and evidence of the degree of incidence and damage in different parts of the Central Provinces and Berar and Hyderabad, both on cultivators' fields and Government farms, as far as possible. The Director of Agriculture's attention should be particularly drawn to the necessity of digging and sifting the soil on a fairly large area of at least half an acre.

Punjab Root Rot Scheme—Publication of a paper on.—The Sub-Committee approves of the paper entitled "Studies on Root Rot Disease in the Punjab—Symptoms, Incidence and Cause" prepared by Dr. R. Sahai Vasudeva being sent, as it is, to the Imperial Council of Agricultural Research for publication.

Institute of Plant Industry, Indore (No. 40).—The programme of research work of the genetic and botany section is approved as it stands. From the point of view of cotton research in India as a whole, the Sub-Committee considers that adequate financial provision for the Genetic and Botany Section is of the greatest importance. The programme of the Chemistry and Agronomy Section is too large. The soil programme in particular must be regarded as a general programme to be taken up as conditions permit over a series of years. The Sub-Committee recommends that work on that part of the programme be concentrated on those aspects which appear to be of greatest importance. The rotation programme is also more ambitiously worded than can have been intended. The Sub-Committee is of the opinion that it should be made clear that the programme under the heading of soil, micro-biology must also be of a preliminary nature.

The Sub-Committee suggests that the next annual report of the Institute should include a summary of the progress along the various lines of the programme in order to give the Committee an idea of the rate at which a very large programme is being tackled. The Director of the Institute assured the Sub-Committee that the Chemist and Agronomist could be relied on not to undertake too much work on the programme and pointed out that as it stood it would have to be cut to some extent since the Board of Governors had not been able to meet a request for additional laboratory space.

It should be noted that the note on page 5 typed below the heading "Soil Micro-biology" should be read below the heading "Chemistry and Agronomy Section" at the head of page 3.

The Sub-Committee recommends that a total grant of Rs. 1 lakh be made to the Institute for the year 1935-36.

REPORTS OF TECHNOLOGICAL ASSISTANTS.

The Sub-Committee recommends that, in future, the reports of Technological Assistants should be prepared as instructed by the Director, Technological Laboratory, and submitted to the Agricultural Research Sub-Committee for consideration.

*Letter from the Head of the Entomological Department, Oklahoma, commenting on the article on the Phototropic responses of *P. Gossypiella*—by M. Afzal Husain, Entomologist to the Government of the Punjab (No. 34).*

The Sub-Committee recommends that this letter be recorded.

Hyderabad Pink and Spotted Boll-worm Scheme.

The comments made by this Sub-Committee on the Progress Report of this scheme submitted at the last meeting have now been explained by the officer in charge and the revised programme for the six months, January to June 1935, has been approved by the Sub-Committee.

Proposed maintenance of a minimum balance from the accumulated funds of the Committee—Reference from the Government of India.

The Sub-Committee recommends that a minimum balance should be maintained, and that it be Rs. 9,00,000. There should be no objection, however, to draw upon this minimum balance in case of emergency, provided such shortages are made good as soon as conditions improve.

APPENDIX VII.

SUBJECT 35.—*Technological Research—Summary of Progress Report (No. 23) of the Director, Technological Laboratory.*

The present report contains an account of the work done at the Technological Laboratory between 1st June 1934 to 31st October 1934. It will be seen from a perusal of this report that the resources of the Laboratory have been utilised to an even greater extent than in the past in the matter of undertaking tests for the Agricultural Departments and carrying out of such investigations as are likely to prove useful to the Agriculturists, the Trade and the Industry. Under these various heads the number of samples subjected to spinning tests during the period under review rose to the high figure of 224, which establishes a fresh record. The work of the Laboratory, as usual, will be described under the following five heads :—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. SPINNING LABORATORY.

The following classified table gives the number and distribution of samples received for tests during the period under review together with the figures for the corresponding period of last year for purposes of comparison :—

TABLE I.

	1st June 1934 to 31st Octo- ber 1934.	1st June 1933 to 31st Octo- ber 1933.
Agricultural Departments	89	103
Standard cottons	1	1
Trade samples	25	29
Fibre test samples	77	46
Yarn test samples	8	5
Special test samples	19	19
	219	203

It will be seen that during the period under review 219 samples were received for tests as against 203 for the corresponding period of last year, showing an increase of about 8 per cent. The number of samples received for spinning tests from the Agricultural Departments was rather less than that in the corresponding period of last year, but on the other hand the number of samples received for fibre tests showed an increase of nearly 70 per cent. The number of samples received for yarn tests was also higher which is gratifying in view of the fact that for sometime past these tests have been made only on payment of certain fees laid down by the Committee. Although the Technological Laboratory does not aim to perform the functions of a Testing House, yet as a result of the growing confidence in its work and testing methods, it is being consulted more frequently by the trade and the industry.

The number and distribution of samples, lots and counts spun during the period under review are given in the following table together with the figures for the corresponding period of last year for purposes of comparison :—

TABLE II.

	Samples.		Lots.		Counts.	
	1st June 1934 to 31st October 1934.	1st June 1933 to 31st October 1933.	1st June 1934 to 31st October 1934.	1st June 1933 to 31st October 1933.	1st June 1934 to 31st October 1934.	1st June 1933 to 31st October 1933.
Bombay	31	76	31	76	95	223
Punjab	34	..	34	..	103	..
United Provinces	..	..	..	..	..	..
Madras	58	26	58	26	174	77
Central Provinces	..	..	..	..	..	..
Miscellaneous	49	37	49	37	147	111
Total	172	139	172	139	519	411
Standard	1	1	2	2	12	12
Trade tests	27	21	27	21	79	48
Technological tests	24	24	46	24	247	64
Grand Total	224	185	247	186	857	535

It will be seen that the total number of samples spun during the period under review shows an increase of 21 per cent. over the number for the corresponding period of last year while the total number of lots and counts show an increase of 33 per cent. and 60 per cent. respectively. When it is remembered that during the corresponding five months of last year the total number of samples spun had already risen to the high figure of 185, an increase of 21 per cent. over it is very satisfactory. The results of all the various tests carried out at the Laboratory were as usual embodied in spinning test, fibre test and yarn test reports, and the following table shows the number of such reports issued during the period under review together with the figures for the corresponding period of last year :—

TABLE III.

	1st June 1934 to 31st October 1934.	1st June 1933 to 31st October 1933.
Spinning Test Reports	57	45
Fibre Test Reports	9	18
Yarn Test Reports	4	2
Total	70	65

It will be seen that the number of spinning test reports issued rose from 45 for the corresponding period of last year to 57 during the period under review, showing an increase of nearly 27 per cent., while the number of yarn test reports rose from 2 to 4. The number of fibre test reports shows a decrease which is due to the fact that although a large number of small size samples were received, many of these could not be taken in hand owing to the fact that the Fibre Testing Section was fully occupied with those samples on which spinning tests are also performed and for which the results are awaited

anxiously by the Cotton Breeders who want the spinning test reports on their new varieties as soon as possible. The total number of reports issued during the period under review is 70 as against 65 for the corresponding period of last year. Most of the samples tested during the period under review fall under the routine class but among these there are some which are of special interest and will be mentioned below :—

Agricultural samples.—The following samples among those received from the Agricultural Officers are worthy of special mention.

(a) *Irrigation experiments.*—It was mentioned in Progress Report No. 20 that some samples of P.A. 4F cotton were received from the Cotton Research Botanist, Lyallpur. These samples were grown from the same seed under identical conditions with this difference, however, that each sample was given a different irrigation treatment. The object of the tests on these experiments was to find out the particular irrigation treatment which would give the optimum results as regards yield and spinning performance and also to elicit information in respect of the effect of different irrigations on the fibre properties and the spinning performance of a cotton. Tests on these samples gave such interesting results that the Technological Research Sub-Committee, at my recommendation, decided that other Cotton Breeders should also be asked to supply samples of cottons grown in their areas with different irrigation treatments so that this problem may be studied in a comprehensive manner. It was further decided that in view of the importance to the agriculturists of the results of this investigation the results should not be published until the experiments had been repeated in at least two seasons. In accordance with this decision, the Directors of Agriculture of the various Provinces were approached with the request kindly to arrange to send to the Laboratory samples of cotton grown under identical conditions but with different irrigation treatments. In response to this request samples of cottons were received from (1) the Cotton Research Botanist, Lyallpur, (2) the Cotton Specialist, Coimbatore, (3) the Cotton Physiologist, Sakrand, and (4) the Director, Institute of Plant Industry, Indore. These tests have now been carried out in some cases for two and in others for three seasons. The results of these tests are now available and in view of their importance are now placed before the Technological Research Sub-Committee in Enclosure I*.

(b) *Banilla cotton.*—It will be recalled that in view of the varying performance of this cotton grown in different parts of Khandesh tests were made on samples of Banilla cotton grown in the districts and the results of these tests were published in Technological Bulletin, Series A, No. 22. This cotton constitutes the principal variety grown in Khandesh and in view of its importance to the cultivators, tests have been continued on samples raised in the farmers' fields with a view to ascertaining the trend in the quality of this cotton when grown in the districts.

(c) *Uganda cotton.*—It will be recalled that at the request of the East India Cotton Association the Technological Laboratory has carried out fibre tests on samples of fair average quality of A. R. Kampala, A. R. Busoga and A. R. Jinja with a view to helping the Association to lay down suitable standards of length for these three types. These tests have been continued and during the period under review 12 samples were received from the East India Cotton Association and tested.

It will also be remembered that for the last two seasons the Technological Laboratory, with the sanction of the Indian Central Cotton Committee, has carried out, free of charge, spinning tests on improved varieties of cotton which are being developed in the Uganda Protectorate. The Technological Research Sub-Committee at its last meeting held on 28th August 1934 decided that with the consultation of the Chief Botanist, Uganda, a note should be prepared by the writer summing up the results of tests on these cottons available up to date. Accordingly a note was prepared and sent to the Senior Botanist, Uganda, who made certain additions, concerned mainly with the agricultural details of these cottons, and a copy of the modified note is appended in Enclosure II*.

(d) *Testing of samples for private mills.*—These tests are now undertaken at the Technological Laboratory on the payment of certain fees laid down by the Committee provided that they do not interfere with the normal work of the Laboratory. During the period under review 13 samples were received under this head. Of these 5 were subjected to spinning tests, 4 to yarn tests and the remaining 4 to determination of wax content.

(e) *Trade samples.*—These samples are being tested at the Laboratory in accordance with an arrangement entered into between the Indian Central Cotton Committee on the one hand and the East India Cotton Association, and the Millowners' Associations of Bombay and Ahmedabad on the other. During the period under review 22 samples were received for tests and the results of these spinning tests were embodied in 18 technological circulars, which, as in the past year, also contain the results of tests carried out

* Not printed.

on the same during the previous seasons. The following list gives the trade descriptions of the samples tested under this arrangement together with the number and month of issue of the circulars issued thereon :—

Cotton.	Technological Circular No.	Date of issue.
Dholleras	136	July 1934.
Kalagin	137	"
Westerns	138	"
Bailhongal	139	"
Farm Westerns and Tiruppur Cambodia	140	"
Broach	141	"
Jagadia	142	"
Bawla and Kadi	143	"
Karunganni	144	August 1934.
Navsari	145	"
Cambodia	146	"
Kadi-Viramgam	147	"
Tinnevelly	148	"
Bagalkote	149	"
A. R. Kampala, A. R. Busoga & A. R. Jinja	150	September 1934.
Bijapur	151	"
Upland	152	"
Karunganni	153	"

In addition to these the Laboratory has undertaken during the period under review a number of tests which are of direct interest to the trade and the industry. A brief account of these is given below :—

(1) *The effect of different degrees of compression on the spinning quality of cotton.*—

The investigation was undertaken with the sanction of the Technological Research Sub-Committee with a view to ascertaining the extent to which different degrees of compression in a bale influence the fibre properties and the spinning quality of a cotton. It was decided that these tests should be made in the first instance on two cottons, viz., Punjab-American 289F and C. P. No. 1. Accordingly, three bales of each cotton were obtained. These, although pressed to the same size, contained approximately 400 lbs., 300 lbs. and 200 lbs. of lint. The tests on the Amraoti cotton were carried out without a hitch and the results obtained are given in Enclosure III*. It will be seen from the conclusions arrived at that, although there is an improvement in the quality of the yarns spun from the low density bale as compared with those obtained from the high density bale, the improvement is not compatible with the extra cost of transporting the bales from the districts to Bombay. It will thus be admitted that from the economic point of view the preparation of low density bales having 200-300 lbs. of lint will not be a change for the better. As regards P. A. 289F the three bales received for this purpose gave highly discordant results showing that pure cotton had not been used in the preparation of the three bales. On a reference being made to the firm supplying the bales, it was admitted that a mistake had crept in as a result of which the purity of cotton in these bales could not be guaranteed. The Firm have now offered to supply, free of charge, another three bales containing pure 289F, and it is for consideration if further tests should be made on 289F cotton and some other Indian cottons.

In connection with this investigation my thanks are due to Mr. S. D. Saklatvala, who very kindly arranged to have the yarns spun from C. P. cotton, examined at one of his mills and gave me the benefit of his views as regards their quality.

(2) *Deterioration of Broach cotton with lapse of time.*—The East India Cotton Association some time ago raised the question of the deterioration of Broach cotton with lapse of time. This question was referred to the Director of Agriculture, Bombay Presidency, Poona, who was of the opinion that tests should be made at the Technological Laboratory with a view to ascertaining on the one hand the extent to which deterioration of this cotton takes place with lapse of time and on the other the possible cause

of such deterioration. Accordingly, a bale of Broach cotton was purchased and a sample, drawn from the top of the bale, was subjected to fibre and spinning tests. The bale was re-pressed by hand and stored in the samples room of the Laboratory for six months after which two further samples, one from the top and the other from the middle of the bale, were drawn and subjected to spinning and fibre tests. The bale has again been re-pressed by hand and it is proposed to draw two further samples, one from the middle and another from the bottom of the bale, after further six months and subject these to fibre and spinning tests. The object of drawing two samples at a time is to make due allowance for opening the bale and re-pressing it by hand. Along with these tests, small samples drawn from the top and middle parts of the bale have been subjected to a microscopic examination for the detection and identification of such fungoid and bacterial growths as may be responsible for the deterioration of this cotton. Cultures of these fungoid and bacterial growths have been prepared in special media and it has been found that at least 10 different kinds of fungi and bacteria are associated with this cotton. This work is in progress.

(3) *Deterioration of cotton stacked in open plinths in Karachi.*—It will be recalled that this investigation was undertaken at the request of the Karachi Cotton Association with a view to ascertaining the extent to which cotton bales stacked in open plinths in Karachi deteriorated in comparison with those stored inside a shed. For this purpose 18 bales of cotton representing the three types which are mainly received in the Karachi market were purchased. Half of these bales were stacked in the open plinths while the other half was stored inside a shed through the courtesy of Messrs. Volkart Brothers, Karachi. Samples for spinning and fibre tests have been drawn from these bales at six months' intervals, and the last six samples were drawn in October 1934. It is proposed to submit a full account of the results of this investigation at the next meeting of the Technological Research Sub-Committee.

(4) *Effect of pre-humidification on the spinning quality of cotton.*—In view of the increasing attention which has been paid to moisture in Indian cottons it was felt that it would be extremely useful to have definite information regarding the effect of pre-humidification on the spinning quality of a cotton, especially when the bales containing abnormal quantities of moisture are stored for some length of time. Accordingly, tests have been undertaken on two styles, viz., Broach and Amraoti cottons. For the purposes of tests on Broach cotton, the East India Cotton Association very kindly supplied four bales of this cotton to the Technological Laboratory which were pressed at Palej with the addition of known quantities of water. As soon as these bales were received in Bombay samples were drawn for spinning tests and the bales were re-pressed by hand and stored in a room in the Cotton Exchange Buildings, kindly placed at the disposal of the Laboratory by the East India Cotton Association. On two subsequent occasions samples have again been drawn at four months' intervals and subjected to fibre and spinning tests. For the purposes of tests on Amraoti cotton, three bales were very kindly supplied by Messrs. Volkart Brothers, Bombay, and were stored in their godown at Sewri. From each of these bales four samples have been drawn at regular intervals and subjected to the spinning and fibre tests. The tests on the Amraoti bales are now complete but those on the Broach bales are not yet complete. It is hoped that these tests will also be completed during the next few months and an account of this investigation will be placed before the next meeting of the Technological Research Sub-Committee.

(5) *Effect of storage prior to ginning on the spinning quality of cotton.*—Storage of cotton in seed prior to ginning often results in deterioration in the quality of seed and lint, especially if the seed cotton contains excessive moisture, even in patches, due either to rain, dew or humidification. In spite of it the opinion is held in some circles and often expressed in books and articles on cotton that storage of seed-cotton has a beneficial effect on the quality of lint. In order to test the validity of this contention the Cotton Research Botanist, Lyallpur, was requested to supply two samples each of P. A. 289F, P. A. 4F and Mollisoni. In each case one sample was prepared from seed-cotton ginned immediately after picking, while the other sample was prepared from seed-cotton which was stored for four weeks before ginning. The results of fibre and spinning tests and wax determination tests on these samples show that there is no truth in the statement that the fibres of a cotton become mature owing to storage in seed, while the possibility of its damage due to bacterial and fungoid attack is always present, if seed-cotton is stored for any length of time. The results of these experiments have been sent up for publication in the form of a Technological Bulletin, Series B, No. 19.

(6) *Ginning Tests.*—One sample each of *kapas* of Udgir Gaorani and Gaorani General was supplied by the Industrial Engineer, Hyderabad State, for ginning tests with a view to ascertaining the effect of ginning treatment on the fibre properties and the

spinning performance of this cotton. The *kapas* was ginned in the saw gin and the double roller gin of the Laboratory and was subjected to the usual fibre and spinning tests.

It will be recalled in this connection that eight samples of *kapas* of representative Indian cottons were obtained sometime ago and were ginned in the saw-gin, single roller-gin and double roller-gin of the Laboratory. The spinning tests and fibre tests on all the samples have now been completed and the results are being analysed with a view to their publication in a Technological Bulletin.

(7) *Standard Indian Cottons*.—As in the past, tests on Standard Indian Cottons were continued and results of these tests were described in a Technological Bulletin. This Bulletin contains the results of tests on 16 as against 18 cottons in the last year's Bulletin. Two cottons, viz., C. A. 9 from the United Provinces and Hagari 25 from Madras Presidency, have been omitted, the former because it is no longer grown on a commercial scale, the latter because it has been replaced by an improved variety, Hagari I. Another noteworthy feature about this year's tests is the inclusion in the Bulletin for the first time of the results for maturity percentage of these cottons. In connection with the tests on these cottons, I have also to mention that so far these tests have been carried out on Ring Frame No. 1, which employs band drive arrangement for its spindles. As the band drive is rapidly giving place to tape drive in the Indian mills, it has been thought advisable to bring the Laboratory tests in line with the prevailing custom in the mills by making tests on Ring Frame No. 3 which is fitted with the tape drive arrangement. In view of the fact, however, that switching over from one ring frame to another, which employs a different arrangement for the spindle drive, may invalidate a comparison with the results of the past seasons, parallel tests have been made on Ring Frame No. 1 and Ring Frame No. 3 for two seasons. These tests will be completed this year and will supply the necessary connecting link between the two sets of results and in future Ring Frame No. 3 will be employed in tests on these cottons.

II. RESEARCH LABORATORY.

Fibre Testing Section.

This Section has been very fully occupied with the determination of the fibre properties of samples sent to the Laboratory for spinning tests and fibre tests and of such samples on which tests were necessary in connection with the technological problems undertaken at the Laboratory. During the period under review the total number of samples on which fibre tests of one kind or another were performed in this Section amounted to 220.

Mr. N. Hari Rao, in addition to supervising the work of this Section, has continued his investigation on the effect of twist on the strength of fibre. During the period under review he has been examining the Banilla cotton for this purpose and as soon as the tests on this cotton are completed he shall extend them to Hagari I.

Physics Section.

Mr. R. S. Koshal has continued with the analysis of the data for rainfall and temperature and irrigation with a view to studying the influence of these factors on the spinning quality of a cotton. He has made very good progress in this connection and has already obtained some very interesting results. As a result of the preliminary work, it was found necessary to make use of the values of rainfall per week rather than the figure for the total rainfall during the growing period. Accordingly, the agricultural officers were requested to supply detailed data as regards the amount of rainfall and temperature during the growing period of the cottons on which this study has been undertaken. They have in all cases responded in a very willing manner and this investigation is in progress.

Mr. C. Nanjundayya completed an account of his investigation on the relationship between the fibre strength and length grade of cotton fibres which will be sent up for publication as a Technological Bulletin. During the period under review he has been devoting most of his time to the study of the rates of absorption of moisture by different varieties of cotton and the absorption of moisture under different degrees of compression. This work is in progress.

Chemistry Section.

Mr. D. L. Sen has continued his investigation on the absorption of different dyes by the standard Indian cottons. During the period under review he has been determining the wax content of these cottons with a view to studying the relationship between this property and the absorption of substantive dyes by a cotton. This work is in progress.

Mr. Sen has also, during the period under review, carried out moisture tests on 98 samples of cotton, a brief account of which will be found under the head "Moisture Testing Section."

Microscopy Section.

Mr. A. N. Gulati has carried out maturity tests on such samples of cotton on which this information was required by the cotton breeders. Besides making these tests on standard Indian cottons which had been incorporated in the Technological Reports on these cottons for the first time, he has also continued his investigation of the percentage of mature hairs in various cottons at different stages of their spinning treatment. Side by side with this investigation, he has been studying the bacterial and fungoid growths in connection with an investigation on Broach cotton with a view to ascertaining the causes of deterioration of this cotton. He has prepared cultures in special media of such bacteria and fungi as are found to be associated with this cotton and is continuing the work with a view to their identification and the relative intensities of their infection.

III. MOISTURE TESTING SECTION.

It was mentioned in my last progress report that the results of all the moisture tests carried out at this Section were placed before a Special Sub-Committee of the East India Cotton Association, who, after a careful consideration of these results, decided that the data so far available was not sufficient to warrant definite judgment to be formed as regards the normal moisture present in Indian cottons. It was recommended that this work may be continued for another season. Accordingly, during the period under review, 98 samples were tested for moisture content out of which 91 samples were taken from the trade bales as they were received in Bombay, 2 were supplied by the Appeal Committee of the East India Cotton Association and the remaining 5 samples were tested in connection with the effect of pre-humidification of Broach and Amraoti cottons to which a reference has been made above. Since its inception, this Section has undertaken tests on 721 samples in all out of which 342 samples were taken from the trade bales, 55 supplied by the Appeal Committee of the East India Cotton Association and 324 samples have been tested either in connection with the technological investigations of the Laboratory or those drawn from specially prepared bales with a view to determining the natural moisture present in such bales as are pressed under known conditions of humidity and temperature. It is now felt that the data available is sufficient for the purpose of drawing definite conclusions and a report containing the results of all the tests so far carried out will be placed before the Special Sub-Committee of the East India Cotton Association in due course.

IV. PUBLICATIONS.

During the period under review the following bulletins and technological circulars were issued:—

Bulletin.—Technological Bulletin, Series A, No. 26, "Technological Reports on Standard Indian Cottons, 1934".

Circulars.—Technological Circulars Nos. 136–153 as given on page 74.

V. GENERAL.

Extension of the Laboratory.—At its meeting held on the 30th January 1934, the Indian Central Cotton Committee considered a scheme put up by the writer for the extension of the Technological Laboratory. The Committee decided that for the present the extension of the Spinning Laboratory block may be taken in hand and new machines may be installed in the blow-room to bring the plant up-to-date. As the present site on which the Laboratory stands was not sufficient for the sanctioned extensions, two adjoining plots on the north side were purchased at a cost of Rs. 23,100. The details of the new machinery and the new sequence of machines in the blow-room were very carefully gone through in consultation with Mr. S. D. Saklatvala and Messrs. Norris and Pilkington, to whom my thanks are due, and an order for the new machines was placed with Messrs. Tweedales and Smalley (1920), Ltd., Castleton, England, who kindly offered to supply these machines at a specially reduced price. The new machines include a horizontal cleaner, a hopper feeder with three step cone pulleys, two cyclones and improved dust trunks with vibrating grids. Furthermore the old hopper feeder has been provided with stronger upright and evenner lattices and the old crighton opener with improved triangular grid bars and new set of blades. Provision has also been made for two new electric motors, one to drive the horizontal cleaner and the other to drive the scutcher, the old scutcher motor being used for the new hopper feeder. The total cost of the new blow-room machines, including

accessories, will be approximately Rs. 8,000, while it is estimated the extension of the Spinning Laboratory block will cost about Rs. 30,000.

Visitors.—Each year the Laboratory is visited by a number of people connected with the trade and the industry, who, after reading the publications of the Laboratory, wish to see the working of the Laboratory and the various testing methods employed here or to discuss any problems in which they are interested with the writer. The Laboratory, during the past few years, has also attracted students from other institutions who come in a party generally accompanied by one of their professors. During the period under review a party of 20 students of the Wilson College, Bombay, visited the Laboratory.

Equipment.—The equipment of the Laboratory has been strengthened by the acquisition of the following instruments :—

1. One motor driven twist counter manufactured by the U. S. Testing Co., U. S. A.
2. One Brunswiga Calculating Machine.

Staff.—The undersigned returned from leave and deputation out of India on 1st September 1934 and took over charge of the office of Director from Mr. R. P. Richardson.

Mr. R. P. Richardson, Spinning Master, proceeded on leave out of India on 10th September 1934 for four months and one day. Mr. N. Iyengar, Spinning Assistant, was appointed to officiate for Mr. Richardson during his leave of absence.

Mr. D. F. Kapadia was offered the post of the Head of the Textile Department, Victoria Jubilee Technical Institute and was permitted to take up the duties of his new post from 1st July 1934.

Acknowledgments.

My thanks are due to members of the research, testing and office staff of the Technological Laboratory who throughout the period under review continued to give me the fullest possible assistance and loyal co-operation in the completion of the work described in this report.

(Signed) N. AHMAD,

Director, Technological Laboratory.

Dated the 16th January 1935.

APPENDIX VIII.

SUBJECT 36.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 10-30 a.m. on the 3rd February 1935.

The Sub-Committee considered the Progress Report submitted by the Director for the period June 1934 to October 1934. Compared with the corresponding period previous year, the progress made by the Laboratory during the period under review may be briefly stated as under :—

	1933.	1934.
	June to October.	June to October.
Number of samples received for tests ..	203	219
<i>Number actually tested—</i>		
Samples	185	224
Lots	186	247
Counts	535	857
Number of spinning, fibre and yarn test reports issued	65	70

The Sub-Committee considered the results of the tests so far carried out at the Laboratory on samples of cotton grown at Lyallpur, Coimbatore, Sakrand and Indore under identical conditions but with different irrigation treatments. The Sub-Committee is of the opinion that this investigation should be extended and continued, and such results as are of interest should be published.

The Sub-Committee approves of the form drawn up by the Director for furnishing the results of tests carried out at the Laboratory on Uganda cotton sample. The Sub-Committee recommends that in future tests on N-17 control also should be included in the report.

Reviewing the work of the Laboratory, the Sub-Committee recommends that a brochure containing an account of the past work of the Laboratory be written up by the Director, and submitted to the Committee at its next meeting, together with his programme of work for the future.

The Sub-Committee examined the results of tests on high and low density bales of C. P. No. 1 cotton given in Enclosure III of the Progress Report. The Sub-Committee recommends that further tests should be carried out on long staple cottons such as 289-F, Cambodia, etc. If it is then found that high density pressing is injurious to the fibre, the Railways should be asked to reduce the freight on low-density bales to a level equal to that of high density bales weight for weight.

The Sub-Committee considered and approved the budget for 1935-36, and the revised estimates for 1934-35, and recommends as under :—

- (1) That the revised scale of pay applicable to all future entrants to the posts of Junior Research Assistants be fixed at Rs. 250—25—350.
- (2) That Dr. K. R. Sen be appointed to the post of Junior Research Assistant vacated by Mr. Ram Saran Koshal.
- (3) That the temporary post of Personal Assistant being held by Mr. Venkataraman and carrying a duty allowance of Rs. 50 per mensem be extended for a period of one year from the 1st March 1935.
- (4) That Mr. H. B. Joshi be allowed to continue to be in charge of the Yarn Testing Section with a duty allowance of Rs. 25 per mensem for such time as Mr. Venkataraman holds the post of Personal Assistant.
- (5) That four temporary posts of Junior Testers for three months each at Rs. 75 per mensem be created.

The Sub-Committee considered the question of testing cloth samples at the Technological Laboratory. The Sub-Committee recommends that for such tests the following scale of fees should be charged :—

				Rs.
Actual counts	...	..	..	15 per sample.
Actual twist	..	..	..	20 per sample.
Single thread strength	..	..	..	20 per sample.

The Sub-Committee accepts the recommendation of the Director, Technological Laboratory, that the future reports of Technological Assistants posted in the provinces should also show the number of samples tested by them under the following heads :—

- (1) Routine tests on new strains meant primarily to relieve the congestion of samples for fibre tests at the Laboratory.
- (2) Cotton Breeders' problems other than breeding of new varieties.
- (3) Technological Assistant's own research.

The Sub-Committee recommends that the Conference between the Technological Assistants and the Senior Research Staff of the Technological Laboratory be made an annual feature.

The Sub-Committee considered the proposals submitted by the Director to start an investigation into the tensile strength and the elasticity of the acetate material prepared from the various short staple Indian cottons, and recommends that a Chemist be appointed on Rs. 350 per mensem for 12 months with a provision of Rs. 300 in all for his travelling expenses; and that testing apparatus and instruments worth Rs. 2,000 be purchased for this investigation. The Chemist should submit his report at the end of this period, when the question of the continuance of the investigation would be considered.

As regards the manufacture of the stapling apparatus the Sub-Committee is of opinion that no useful purpose would be served by making further enquiries abroad, and its manufacture may be concentrated upon in India.

The Sub-Committee considered the applications of the Electrician, the Statistical Clerks, and the draughtsman for enhanced scales of pay and decided that they should be informed that their requests could not be complied with.

The Sub-Committee considered an application from Mr. D. L. Sen, the Chemist at the Technological Laboratory, for 12 months' study leave in England to undergo a special course of study at the Manchester College of Technology in several methods of modern research connected with the problems of Textile Chemistry. The Sub-Committee recommends that the study leave asked for may be granted on the terms admissible under the Fundamental Rules, and that, in addition, the cost of his tuition fee amounting to 75 guineas may be borne by the Committee.

TECHNOLOGICAL LABORATORY.

Budget for 1935-36.

	Sanctioned budget, 1934-35.	Revised estimates, 1934-35.	Budget, 1935-36.	Remarks.
	Rs.	Rs.	Rs.	
<i>I. Superintendence.</i>				
1. <i>Director</i> (1,500—100—1,700— 100—2,200)—				
Salary	21,415	18,960	22,610	
Provident Fund	1,800	1,560	1,801	
Duty allowance	1,000	1,000	....	
2. <i>Office Establishment—</i>				
(i) Salary (150—10—200— 10—240).	2,390	2,385	2,619	
Provident Fund	200	200	219	
(ii) Salary (120—5—150) (2)	3,136	2,992	3,256	
Provident Fund	261	261	273	
(iii) Salary (80—5—120)	1,036	988	1,095	
Provident Fund	86	86	92	
(iv) Leave salary	562	562	581	1/12th.
3. <i>Contingencies—</i>				
(a) Pay of menials	669	669	672	
Provident Fund	55	55	56	
(b) Leave salary	55	55	56	1/12th.
(c) Other contingencies	3,000	2,500	2,500	
4. Travelling Allowance	1,000	1,000	1,300	
5. Publication—Printing	5,000	5,000	5,000	
Total	41,665	38,282	42,220	
<i>II. Spinning Laboratory.</i>				
1. <i>Spinning Master</i> (700—50—800— 850—50—950)—				
Salary	11,353	10,830	11,353	
Provident Fund	950	950	950	
Furniture allowance	200	200	200	
Duty allowance	500	500	....	
Carried over	13,003	12,480	12,503	

	Sanctioned budget, 1934-35.	Revised estimates, 1934-35.	Budget, 1935-36.	Remarks.
	Rs.	Rs.	Rs.	
Brought forward ...	13,003	12,480	12,503	
2. <i>Electrician</i> —				
Salary (100—10—200) ..	2,300	2,251	2,390	
Provident Fund ..	197	197	200	
3. <i>Fitter Jobber</i> —				
Salary (100—110—130—10—200) ..	2,390	2,280	2,390	
Provident Fund ..	200	200	200	
	18,150	17,408	17,693	
4. <i>Clerk</i> —				
Salary (75—5—100—4—130) ..	1,304	1,330	1,442	
Provident Fund ..	116	116	121	
5. Leave Salary ..	307	307	311	5 per cent.
6. <i>Contingencies</i> —				
(a) Pay of spinning operatives ..	3,701	3,701	3,690	
Provident Fund ..	304	304	309	
(b) Pay of menials ..	1,224	1,224	1,193	
Provident Fund ..	64	64	89	
(c) Leave salary ..	410	410	407	1/12th.
(d) Municipal taxes ..	850	850	1,000	
(e) Insurance ..	600	600	800	
(f) Annual repairs and main- tenance ..	500	100	250	
(g) Other contingencies ..	2,406	2,400	2,400	
Total ..	30,020	28,814	29,695	
<i>III. Research and Testing Laboratories.</i>				
1. <i>Senior Research Assistant, Chemist</i> —				
Salary (350—25—650) ..	6,773	6,460	7,071	
Provident Fund ..	566	566	593	
2. <i>Senior Research Assistant, Assistant Technologist</i> —				
Salary (350—25—650) ..	6,025	4,750	*2,750	*Provision for 11 months at Rs. 250 per mensem.
Provident Fund ..	504	417	106	
3. <i>Senior Research Assistant—Physicists (2) (Temporary)</i> —				
Salary (350—25—650) ..	11,254	10,735	11,851	
Provident Fund ..	941	941	902	
Carried over ...	20,063	23,869	23,423	

	Sanctioned budget, 1934-35.	Revised estimates, 1934-35.	Budget, 1935-36.	Remarks.
	Rs.	Rs.	Rs.	
Brought forward ..	26,063	23,869	23,428	
4. Junior Research Assistants (2)— Salary (250—25—350—25—500) ..	9,028	8,611	9,626	
Provident Fund ..	754	754	806	
5. Statistician— Salary (250—25—350—25—500) ..	5,378	5,130	5,676	
Duty allowance as Personal Assistant ..	598	570	598	
Provident Fund ..	500	500	525	
6. Temporary Research Assistant (1).	487	295	....	
7. Statistician Clerks (2) Salary (90—10—150) ..	3,496	3,334	3,585	
Provident Fund ..	292	292	300	
8. Senior Testers (2)— Salary (100—10—200) ..	3,840	3,840	4,080	
Provident Fund ..	320	320	340	
Duty allowance ..	299	285	299	
9. Junior Testers (15)—14 on salary (90—10—150) and one on (65—75—5—120).	23,964	22,943	24,757	
Provident Fund ..	2,013	2,013	2,070	
10. Instrument Maker— Salary (100—10—150) ..	1,793	1,710	1,793	
Provident Fund ..	150	150	150	
11. Draughtsman— Salary (85—90—10—150) ..	1,798	1,710	1,798	
Provident Fund ..	150	150	150	
12. Temporary Establishment ..	1,185	675	5,100	
Total ..	82,103	77,151	85,071	
13. Contingencies— (a) Pay of menials ..	1,380	1,380	1,398	1/12th.
Provident Fund ..	115	115	115	
(b) Leave salary ..	115	115	116	
(c) Municipal taxes ..	1,800	1,900	1,900	
(d) Insurance ..	500	500	500	
(e) Library ..	1,500	1,200	1,200	
(f) Annual repairs and main- tenance ..	1,000	100	500	
(g) Other contingencies ..	2,500	6,000	2,500	
(h) Apparatus ..	5,000	3,000	3,000	
Total ..	96,013	91,461	1,01,300	

	Sanctioned budget, 1934-35.	Revised estimates, 1934-35.	Budget, 1935-36.	Remarks.
	Rs.	Rs.	Rs.	
IV. Reserve	2,500	2,500	2,500	
(a) Celebration expenses ..	1,000	1,000	....	
Total ..	3,500	3,500	2,500	
I. Superintendence	41,665	38,282	42,220	
II. Spinning Laboratory	30,020	28,814	29,095	
III. Research and Testing Labora- tories.	96,013	91,461	1,01,300	
IV. Reserve	3,500	3,500	2,500	
Grand Total ..	1,71,198	1,62,057	1,75,715	

APPENDIX IX.

SUBJECT 37.—*Report of the Standing Finance Sub-Committee.*

The Sub-Committee held three meetings since the last meeting of the Committee in August 1934.

2. Arising out of the decision of the Board of Governors of the Institute of Plant Industry, Indore, to build a bungalow for the Director in spite of the unanimous opposition of the Committee's representatives on the Board, the Committee at its January 1934 meeting passed a resolution "that the budget of the Institute of Plant Industry, Indore, for 1934-35 be reduced by Rs. 40,000 or such sum as the Standing Finance Sub-Committee might decide." After considering the financial position of the Institute for 1934-35 and 1935-36, the Sub-Committee felt it desirable to leave the matter to the full Committee for settlement.

3. On the recommendation of the Director, Technological Laboratory, the Sub-Committee approved the following additional scales of fees being charged for tests carried out for the trade at the Technological Laboratory :—

Wax content of cotton—

For one sample	Rs. 12-8-0
For two samples	Rs. 22-8-0
For three samples	Rs. 30-0-0
For each additional sample ..	Rs. 7-8-0

Determination of mechanical injury to fibres— Rs. 10-0-0 per sample.

Tests on other systems of spinning in addition to the ordinary 3-roller system .. Rs. 10-0-0 per sample for each additional system.

No modification was considered to be necessary in the existing scale of fees for fibre, yarn and spinning tests but the omission of "maturity" tests listed under "Fibre or

"Yarn Tests" was approved owing to the inclusion of such tests under the head "Percentage of Immature Fibres" tests.

4. The Sub-Committee considered an invitation from the French Trade Commissioner in India, Burma and Ceylon, Calcutta, to send representatives to the Second Annual Session of the International Congress of Exchange, Paris, which was to be held on the 24th and 25th of October 1934, and decided that as the Congress would probably be of little advantage to the Committee no delegate need be appointed.

5. In exercise of the authority delegated by the full Committee at its meeting in August 1934, the Sub-Committee considered the question of listing in order of priority of starting new and extended schemes sanctioned by the Committee at that meeting. The following order was decided on :—

- | | |
|---|---|
| (a) Plant Puller Propaganda Scheme in Surat and Broach Districts | To be commenced from 1st April 1935. |
| (b) Plant Puller Propaganda Scheme in Baroda State | Do. do. |
| (c) Institute of Plant Industry, Indore, after the expiry of the present five year period (in the event of an amicable settlement of the Committee's conditions.) | Do. do. |
| (d) Appointment of an Entomologist on the Hyderabad Pink and Spotted Boll-worm Scheme. | To be commenced as early as possible. |
| (e) Scheme for the marketing and extension of long staple cotton in the Central Provinces and Berar. | To be commenced from 1st April 1934. |
| (f) Scheme for the survey of Goghari cotton in Gujarat. | To be commenced during current financial year. |
| (g) Scheme for the Survey of Goghari cotton in Baroda State. | To be commenced from 1st April 1934. |
| (h) Scheme for defibration of cotton seed in Bombay Presidency. | Do. do. |
| (i) Development of alternative uses for Indian cotton. | To be commenced from 1st April 1935 or as soon as the services of a Chemical Engineer were secured whichever was earlier. |

As regards the scheme for the propagation of C. 402 cotton in the Hardoi and neighbouring districts of Lucknow and Sitapur, United Provinces, the Sub-Committee decided to defer its consideration till the preparation of the next year's budget was taken up when it would be known whether or not the financial position of the Committee permitted the starting of the scheme.

6. The Sub-Committee sanctioned a sum of Rs. 35,000 for the extension of the Spinning Laboratory Block in connection with the scheme for the extension of the Technological Laboratory which was approved of by the Committee at its meeting held in January 1934. The Sub-Committee, after scrutinising 16 sealed tenders received, accepted the tender of Messrs. Moosaji Adamji for Rs. 27,647 in view of the fact that it was the lowest and also because the work of this contractor was known to be satisfactory. The Government of India have since accorded their sanction to the proposed extension of the Technological Laboratory at a cost of Rs. 35,000. The work has commenced and it is hoped to be completed before the end of March.

7. The Sub-Committee considered the Audit Report of the Hubli Co-operative Cotton Sale Society for the year ending December 31st, 1933, and decided to pay the Society the full amount of the subsidy of Rs. 5,000 and Rs. 529-8-0 towards interest.

8. In view of the large increase of work in the office of the Secretary, the Sub-Committee sanctioned an additional post of Upper Division Clerk in the scale of Rs. 100—5—150 and decided that this should be the scale of all future entrants to this post instead of the scale of Rs. 110—5—150.

9. The Sub-Committee at its meeting held in May 1934 considered a letter from the Madras Government regretting their inability to waive the recovery of leave and pension

contributions on account of the staff engaged on the Madras Pempheres and Physiological Scheme and decided that a further representation should be made to the Local Government. The Madras Government have since agreed to waive these charges.

10. As decided by the Committee at its meeting held in July 1930, Mr. T. R. Narayanan of the Madras Subordinate Agricultural Service was granted a scholarship to enable him to proceed to Cambridge for training in Plant Physiology for a period of two years with the object of his eventually taking up the post of Plant Physiologist in the Committee's Pempheres and Physiological Scheme in Madras. In December 1931 the period of his scholarship was extended by another year to enable him to do specialized research work. As Mr. Narayanan failed to obtain the Diploma in Agricultural Science, the term of his scholarship was further extended till the end of October 1934 to enable him to appear again for the examination. The Sub-Committee considered a letter from the Drapers Professor of Agriculture, School of Agriculture, University of Cambridge, forwarded by the Director of Agriculture, Madras, informing the Committee that Mr. Narayanan was again unsuccessful and decided that the attention of the Sub-Committee appointed to examine and report on the Madras Pempheres and Physiological Scheme should be drawn to the letter of the Drapers Professor of Agriculture.

11. The Sub-Committee sanctioned Rs. 5,100 being the share of the Committee towards the extra expenditure required for additional clerks in connection with the scheme of enquiry into the cost of production of crops in the principal cotton and sugarcane tracts in India, undertaken jointly with the Imperial Council of Agricultural Research. The Government of India have since accorded their sanction to this additional expenditure.

12. At its last meeting, the Indian Central Cotton Committee decided to hold its next meeting at Lyallpur. As, however, the Director of Agriculture, Punjab, reported that the cotton season would be over in the fields if the meeting were held in January or February and that living in tents would be very cold, the Sub-Committee decided to hold the cold weather meeting in Bombay.

13. The Sub-Committee sanctioned a sum of Rs. 700 for miscellaneous expenditure to be incurred for shifting and re-erecting the machinery in the Spinning Laboratory.

14. During discussion on the Report of the Standing Finance Sub-Committee at the last meeting of the Committee, Mian Nurullah, a member of the Committee, suggested that the budgets and the balance sheets of the Committee should be presented in an intelligible and more straightforward manner and the Committee decided that the subject should be referred to the Standing Finance Sub-Committee for report. The Sub-Committee considered the subject and decided that Mian Nurullah be requested to send suggestions for better presentation of the Budgets and the Balance Sheets of the Committee. These suggestions were duly received and it was decided that the Secretary should discuss the question with Mian Nurullah and put up a definite scheme for the consideration of the Sub-Committee.

15. The Sub-Committee considered the subject of appointing Auditors for the year 1935-36, and decided to refer to the full Committee the question whether the future audit of the Committee's accounts should be done by a private firm as at present or by the Auditor General. This subject is dealt with under item 44 of the agenda.

16. As a result of the extension of the Technological Laboratory, the Sub-Committee sanctioned a sum of Rs. 200 for the extension of the air ducts in the yarn-testing room.

17. The Committee at its meeting held in February 1933 sanctioned the scheme for the survey of cottons in Rohilkhand and Bundelkhand, United Provinces, for a period of three years at a total estimated cost of Rs. 15,800, subject to reconsideration of the item of travelling allowance of the officer-in-charge amounting to Rs. 1,000 per annum till the question of the status of the Committee's servants was settled. As no final decision has yet been arrived at on this question, and in order to enable the work to be carried on, the Sub-Committee, at the request of the Director of Agriculture, United Provinces, sanctioned the provision of Rs. 1,000 for travelling allowance for the year 1935-36, subject to reconsideration of this item when the final orders of the Government of India are received.

18. The Sub-Committee considered an application for leave from Mr. R. D. Mihra, Publicity and Propaganda Officer, and decided that he should be granted leave for two months after his return from special duty in the United Provinces.

19. The Sub-Committee decided to extend the appointment of Mr. R. D. Mihra, Publicity and Propaganda Officer, for a further period of three years after the expiry of his present contract on a pay of Rs. 950—1,000—1,000, *plus* the house rent allowance of Rs. 75 which he is at present drawing. It was also decided that Mr. Mihra should be allowed leave in accordance with the Government of India Revised Leave Rules, 1933, as applicable to officers on short term contract.

20. The Committee at its meeting in January 1934 sanctioned the renewal of the Agreement of Dr. Nazir Ahmad, Director, Technological Laboratory, for a period of five years. At the same meeting he was also granted leave for four months and 20 days. Whilst Dr. Nazir Ahmad was on leave, the Sub-Committee at its meeting in July 1934, on the recommendation of the Special Sub-Committee on Wider Markets for Indian cotton, placed him on deputation for one month for the purpose of getting into touch with the Industrial Research Institutions in Europe in order to study the uses of Indian cotton. Dr. Nazir Ahmad rejoined duty on the 1st September 1934. In view of the above circumstances, the Committee's Solicitors were consulted as to what date should be taken as the date for the commencement of the new agreement, viz., the 1st April 1934, (i.e., the day following the date of termination of the old agreement), or the 1st September 1934. The Solicitors have given it as their opinion that the latter date is the correct one and this view has been accepted by the Sub-Committee. The 5-year extension of Dr. Nazir Ahmad sanctioned by the Committee will accordingly take effect from the 1st September 1934.

21. The Sub-Committee considered an application from Mr. H. D. Nangpal, forwarded by the Director of Agriculture, United Provinces, requesting that the break in his service from the 13th July 1934 (the date of termination of his appointment under the United Provinces Entomological Scheme) to the 1st December 1934 (the date prior to his joining as Entomologist in charge of the Hyderabad Pink and Spotted Boll-worm Scheme) should be condoned. The Sub-Committee decided that in view of the fact that no provision had been made for Provident Fund in the budget sanctioned for Mr. Nangpal's appointment as Entomologist and also in consideration of the higher salary granted to him than that which he was drawing at the time of the termination of his service on the United Provinces Entomological Research Scheme, the request should not be acceded to.

22. The Committee at its last meeting sanctioned the appointment of Mr. H. D. Nangpal as the Entomologist in charge of the Hyderabad Pink and Spotted Boll-worm Scheme for a period of two years. Mr. Nangpal joined duty at Parbhani on the 2nd December 1934. In view of the fact that the present sanctioned period of the Hyderabad Pink and Spotted Boll-worm Scheme will end on the 31st May 1936, the Sub-Committee decided that Mr. Nangpal's appointment should be fixed up to the 31st May 1936.

23. The Sub-Committee decided that the cost of the universal standards passed by the Committee's Standards Sub-Committee and supplied to the East India Cotton Association and the Karachi Cotton Association should be borne by the Committee.

24. The Sub-Committee considered a reference from the Government of India suggesting the maintenance of a minimum balance from the accumulated funds of the Committee and decided that the minimum balance should be fixed at Rs. 9 lakhs. This subject is dealt with separately on the agenda of the Committee. (Item No. 9).

25. In view of the omission by the Government of India of the provision, for the post of Deputy Secretary in the Government Budget for 1935-36, the Sub-Committee considered a note received from the President and decided that a temporary gazetted post of Personal Assistant on Rs. 750 per mensem should be created for a period of one year in the first instance subject to review at the end of this period and that this appointment should be filled by Mr. C. J. Bocarro, the Superintendent of the Office. The temporary vacancy in the post of Superintendent should be filled by Mr. M. J. Simon, the Statistical Assistant, on a starting pay of Rs. 550 per mensem in the scale of Rs. 450—20—550—25—750, who would, in addition to other duties, continue to be in charge of "statistics". The additional cost on account of the above arrangement will amount to about Rs. 900 in the next year against a saving of Rs. 22,468 which will be effected by the post of Deputy Secretary being held in abeyance.

26. A Balance Sheet of the audited accounts of the Committee's funds and the Provident Fund as on the 30th September 1934 and also the Financial Statement as on the 31st December 1934 are attached for information. Rs. 20,56,227-6-7 of the Committee's Securities are invested in Government Paper and Rs. 6,13,040-10-0 in long-dated Corporation Bonds. The market value of the Committee's Securities, as will

be seen from the Financial Statement, has appreciated by Rs. 7,08,613-4-5 but to finance all the schemes, which are to be put in operation, it will be necessary in the near future to sell some of them.

27. Revised Estimates of Receipts and Expenditure for the current financial year are submitted for approval. Cotton cess receipts up to the end of December 1934 amounted to Rs. 5,19,579-10-2 as against Rs. 4,00,731-8-7 for the corresponding period of last year, and the estimates for cess receipts up to the 31st March 1935 have accordingly been raised to Rs. 6,90,000. Interest has been estimated at Rs. 1,33,150 as against Rs. 1,18,500 in August last. The figure under Miscellaneous Receipts has been shown at Rs. 6,500 as against Rs. 4,000 in the budget for the current year.

The total expenditure for the year is now estimated at Rs. 11,31,794-4-0 against Rs. 13,46,420-8-0 in August last, the decrease of Rs. 2,14,626-4-0 being chiefly due to savings as detailed in the Revised Estimates. The closing balance (excluding recoverable loans amounting to Rs. 15,355-9-3) at the end of the current year will remain at Rs. 24,32,160-1-4 as compared with Rs. 27,34,304-5-4 at the end of last year.

28. The draft Budget for 1935-36 is also submitted for approval. On the basis of past actuals, the estimates of receipts from cotton cess have been raised to Rs. 6,00,000 against the usual provision of Rs. 5,00,000. The figure under interest has been reduced from Rs. 1,18,500 to Rs. 1,09,138 in view of the necessity which is likely to arise for the sale of some of the Securities. The budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee.

BALANCE SHEET AS AT 30TH SEPTEMBER 1934.

RECEIPTS.		Rs.	a. p.	Rs.	a. p.	EXPENDITURE.		Rs.	a. p.	Rs.	a. p.
Cotton Cess receipts	..			95,07,406	8 2	I. A. Administration	..			14,86,018	12 3
<i>Interest account—</i>						B. <i>Improvement of Cotton Marketing—</i>					
Amount received on Investments	..	14,12,633	4 9			1. Cost of exhibits, moisture tests etc.		75,295	9 2		
Add—Refund of income-tax deducted from interest	..	17,078	0 0			2. Cost of growing cotton in India	..	97,500	0 0		
				14,29,711	4 9	C. <i>Seed Distribution and Extension Schemes—</i>				1,72,795	9 2
<i>Less—</i>						I. <i>Bombay—</i>					
1. Interest paid in advance at the time of purchasing Government Paper (since recovered) interest on temporary overdraft and Bank's commission for collection of interest	..			43,918	8 10	1. Habli	..	29,262	15 6		
						2. Gadag	..	30,938	2 9		
						3. Gadag Supplementary	..	17,314	13 11		
						4. Khandesh	..	1,01,576	7 0		
						5. Surat	..	34,282	9 7		
						6. Athani	..	16,658	12 0		
						7. Decan Canals (Banilla)	..	2,530	8 0		
						II. <i>Madras—</i>					
2. Interest credited to Provident Fund account.	..	4,886	6 2			1. Pay and allowance of Business Manager, Tiruppur	..	11,484	0 0		
3. Bank's withdrawal charges for securities sold	..	2,428	9 0			2. Co. 2	..	11,391	12 4		
4. Income-tax deducted on interest	..	20,158	3 6			3. HI	..	10,702	8 9		

5. Brokerage for sterling loan sold ..	201 9 0		III. Sind ..	1,13,035 4 11	
6. Provision for Sinking Fund ..	4,728 7 0		IV. Hyderabad ..	20,496 10 9	
			V. Central Provinces—		
	76,411 11 6	13,53,299 9 3	1. Verum cotton ..	73,503 5 5	
Profit on conversion and sale of securities ..			2. Long Staple-cotton ..	12,428 0 0	
Sinking Fund Account ..		53,671 12 7	VI. Lyallpur Ginnery ..	16,038 3 3	
Miscellaneous Receipts ..		4,728 7 0	VII. Baroda Seed Scheme ..	2,589 0 0	5,04,224 2 2
Refunds to Committee of Provident Fund contributions disallowed ..		20,523 8 9			
Suspense Receipts ..		3,391 1 11	D. Printing and Propaganda—		
		181 1 0	1. Publicity and Propaganda ..	51,907 1 6	89
			2. Printing and Distribution ..	26,131 15 3	
					77,739 0 0
			E. Statistical Research—		
			1. Studies of village consumption of cotton ..	19,764 0 0	
			2. Forecast Improvement Scheme ..	1,046 8 0	
					21,710 8 0
Carried over ..		1,00,52,292 0 8	Carried over ..		22,02,488 0 4

BALANCE SHEET AS AT 30TH SEPTEMBER 1934—*contd.*

RECEIPTS.

	Rs.	a.	p.
Brought forward ..	1,09,52,292	0	8

EXPENDITURE.

	Rs.	a.	p.
Brought forward ..	22,02,488	0	4

II. *Technological Research—*

(1) *Technological Laboratory—*

A. Capital Expenditure—

1. Land and Buildings ..	3,77,917	7	3
2. Machinery ..	86,396	1	8
3. Freight ..	7,502	2	8
4. Apparatus and equipment ..	41,558	3	7
5. Machinery workshop ..	5,789	8	3

B. Working Expenditure—

(2) Provincial ..	14,32,385	10	1
	56,825	11	0

20,08,314 12 6

III. *Research Studentships*

2,31,944 10 7

Agricultural Research Grants—

IV. *Bombay—*

1. A. *Surat Physiological ..*

2,46,139 11 3

B. *Surat Physiological Writing-up ..*

6,035 7 6

2. A. Surat Bollworm ..	1,14,509	9	7
B. Surat Propaganda and Clean-up ..	95,236	8	8
C. Surat Writing-up ..	2,315	3	0
3. A. Dharwar Wilt ..	1,82,836	4	11
B. Dharwar Writing- up ..	10,802	1	3
4. Khandesh Cotton Breeding ..	26,573	6	0
5. Co-ordination of Cotton Research ..	1,749	7	6
6. Jalgaon Cotton Breed- ing ..	17,000	10	9
7. Broach Cotton Breeding ..	24,201	11	3
8. Small Leaf Disease Survey ..	3,720	0	0
V. Madras—			
(a) Herbaceous ..	1,08,004	6	8
(b) Pemphores and Physio- logical ..	64,345	1	5
(c) Reddier Chalam ..	9,299	10	4
(d) Nadam Cotton Breed- ing ..	3,028	8	8
Carried over ..	9,16,177	12	9
		45,02,747	7 5

Carried over .. 1,09,52,292 0 8

BALANCE SHEET AS AT 30TH SEPTEMBER 1934—contd.

RECEIPTS.

Rs.	a.	p.
1,09,52,292	0	8
Brought forward		

EXPENDITURE.

Rs.	a.	p.
Brought forward	9,16,177	12 9
	45,02,747	7 5

Agricultural Research Grants—contd.

VI. Punjab—			
(a) Botanical	4,25,808	0	7
(b) Entomological	1,47,523	12	4
(c) White Fly	35,795	5	0
(d) Root Rot	8,512	3	9
(e) Spraying Trials	12,500	0	0
(f) Defibrating and Delinting	7,700	0	0
(g) Physiological	1,337	8	0
(h) Survey of disease of malformation	830	0	0
VII. Central Provinces—			
(a) Botanical	3,28,204	13	6
(b) Entomological	1,148	0	0
VIII. United Provinces—			
(a) Pink Boll-worm	1,47,761	2	4
(b) Rohilkhand and Bundelkhand Cotton Survey	7,644	2	0
IX. Institute of Plant Industry, Indore	12,76,343	12	0
X. Sind	1,71,340	2	5

XI. <i>Burma</i> —									
(a)	Capital ..	2,906	15	5					
(b)	Cotton Improvement..	24,087	7	9					
XII. <i>Hyderabad</i> —									
(a)	Botanical ..	1,41,408	7	4					
(b)	Cotton Survey ..	22,830	12	3					
(c)	Pink and Spotted Bollworm ..	11,175	14	9					
XIII. <i>Bikaner</i> ..		30,616	6	9					
XIV. <i>Baroda</i> —									
(a)	Root Rot ..	27,867	11	9					
(b)	Comparative Tests ..	4,251	5	3					
XV. Loans Recoverable (but considered doubtful)—									
(1)	Hubli Co-operative Cotton Sale Society.	8,063	9	3					
(2)	Gadag Co-operative Cotton Sale Society.	7,292	0	0					
By suspense account ..		15,355	9	3					
By Balance ..		876	15	4					
Grand Total ..		1,09,52,292	0	8					

BALANCE SHEET AS AT 30TH SEPTEMBER 1934.

Provident Fund Account.

RECEIPTS.		EXPENDITURE.	
	Rs. a. p.		Rs. a. p.
Subscribers' contributions ..	1,48,732 13 9	By advance to subscribers ..	27,519 13 0
Less—Payments made to subscribers resigned ..	35,296 14 2	Less—Recoveries made ..	24,967 8 0
Committee's contributions ..	1,37,286 8 11		2,552 5 0
Less—Payments made to subscribers resigned and forfeitures to the Committee and to Lapses and Forfeitures account.		Accrued interest on Government Paper credited to subscribers up to 31st March 1934 ..	1,738 2 0
	33,193 8 7	Interest paid to subscribers resigned during the year ..	1 13 9
Suspense Deposit of Mr. Dutt's own contributions with interest ..	1,04,083 0 4		1,739 15 9
Investment Fluctuation account .	1,006 3 3	By Balance ..	2,42,063 7 11
Lapses and Forfeitures account ..	23,984 9 5		
Interest received on Investments.	411 10 11		
Interest received on Advances ..	3,652 14 5		
	63 4 0		
	3,716 2 5		
Less—Advance interest paid at the time of purchasing Government Paper ..	281 4 3		
Bank's commission ..	10 9 0		
	291 13 3		
	3,424 5 2		
Total ..	2,46,355 12 8	Total ..	2,46,355 12 8

REVISED ESTIMATES, 1934-35—ALL HEADS.

Revised Estimates, 1934-35—All Heads.

(As passed by the Indian Central Cotton Committee at its meeting held on the 5th February 1935.)

RECEIPTS.	Rs.		a. p.		Rs.		a. p.		EXPENDITURE.	Sanctioned budget.		Estimated expenditure.		Savings (+) Deficits (-)	
										Rs.	a. p.	Rs.	a. p.	Rs.	a. p.
To Opening Balance..	27,34,304	5	4						I. A. Administration ..	1,51,020	0 0	1,24,343	0 0	26,677	0 0
Loans Recoverable Account ..	15,355	9	3												
					27,49,659	14	7		B. Improvement of Cotton Marketing—						
Cotton Cess Receipts					6,90,000	0	0		1. Cost of Exhibits, Moisture tests etc. ..	5,000	0 0	5,000	0 0	....	
Interest Account ..					1,33,150	0	0		2. Cost of growing cotton in India ..	73,143	0 0	64,143	0 0	9,000	0 0
Miscellaneous receipts					6,500	0	0		C. Seed Distribution and Extension Schemes—						
									1. Bombay Presidency—						
									(i) Hubli ..	8,679	0 0	12,909	0 0	4,230	0 0*
									(ii) Gadag ..	8,737	0 0	10,667	0 0	1,930	0 0†
									(iii) Gadag Supple-mentary	5,150	0 0	4,659	0 0	500	0 0
									(iv) Haveri ..	2,800	0 0	....	0 0	2,800	0 0
									(v) Athani ..	12,465	0 0	5,465	0 0	7,000	0 0
									(vi) Ballhonal ..	4,285	0 0	....	0 0	4,285	0 0
									(vii) Surat ..	11,931	0 0	11,331	0 0	600	0 0
									(viii) Khardesh ..	46,535	0 0	37,535	0 0	9,000	0 0
									(ix) Deccan Canals (Banilla) ..	5,090	0 0	5,030	0 0	....	

2. Madras Presidency—

(i) Pay and allowances
of
Manager, Tiruppur.

5,305 0 0 4,805 0 0 500 0 0

(ii) Co. 2 ..

18,580 0 0 17,580 0 0 1,000 0 0

(iii) H-1 ..

14,380 0 0 481 0 0 13,899 0 0

3. Sind ..

54,924 0 0 51,924 0 0 3,000 0 0

4. Hyderabad State ..

5,128 0 0 5,128 0 0
2,016 0 0 2,016 0 0
....

5. Central Provinces—

(i) Verum cotton ..

8,997 4 0 3,775 0 0 5,222 4 0

(ii) Extension and
marketing of long
staple cotton ..

38,754 0 0 31,254 0 0 7,500 0 0

6. Baroda ..

5,120 0 0 3,120 0 0 2,000 0 0

7. Punjab—Sale of all
farm crop produce ..

5,000 0 0 5,000 0 0

Carried over .. 35,79,309 14 7

Carried over ... 4,92,988 4 0 4,01,165 0 0 91,823 4 0

* Due to balance of subsidy and interest for 1932 paid this year and for 1933 and 1934 being paid this year. The excess will be met from savings.

† Due to balance of interest for 1932 and 1933 and for subsidy and interest for 1934 being paid this year. The excess will be met from savings.

RECEIPTS.

EXPENDITURE.	Rs. a. p.		Sanctioned budget.		Estimated expenditure.		Savings (+) Deficits (—).	
	Rs.	a. p.	Rs.	a. p.	Rs.	a. p.	Rs.	a. p.
Brought forward ..	35,79,309	14 7	4,92,988	4 0	4,01,165	0 0	91,823	4 0
D. Printing and Propa- ganda—								
(a) Publicity and Propa- ganda ..	30,074	0 0	25,975	0 0	4,099	0 0		
(b) Printing and Distri- bution ..	11,000	0 0	11,000	0 0				
E. Statistical Research ..	16,032	0 0	20,876	0 0	—4,844	0 0*		
II. Technological Research—								
1. Technological Labora- tory—								
(a) Capital Expenditure.	42,600	0 0	42,600	0 0				
(b) Working Expenses ..	1,71,198	0 0	1,62,057	0 0	9,141	0 0		
2. Provincial ..	18,211	0 0	16,211	0 0	2,000	0 0		
3. Development of alter- native uses for Indian cottons ..	20,000	0 0			20,000	0 0		
III. Research Studentships ..	20,000	0 0	20,000	0 0				
Agricultural Research Grants.								
IV. Bombay—								
(a) Surat Boll-worm Clean- up Scheme ..	4,584	0 0					4,584	0 0

(b) Broach Cotton Breeding Scheme ..	10,044	0	0	6,044	0	0	4,000	0	0
(c) Jalgaon Cotton Breeding Scheme ..	8,043	0	0	7,543	0	0	500	0	0
(d) Small Leaf Disease Survey ..	3,268	0	0	2,468	0	0	800	0	0
(e) Dharwar Wilt Writing-up Scheme ..	145	4	0	145	4	0	....		
(f) Survey of Gogharicotton ..	510	0	0	510	0	0	....		
(g) Defibrillation of Cotton seed ..	5,450	0	0	3,450	0	0	2,000	0	0

V. Madras—

(a) Herbaceum ..	9,110	0	0	8,610	0	0	500	0	0
(b) Pempheres and Physiological ..	35,859	0	0	28,859	0	0	7,000	0	0
(c) Fodder Cholera ..	4,168	0	0	3,168	0	0	1,000	0	0
(d) Breeding of Nadam cotton ..	2,528	0	0	2,328	0	0	200	0	0

VI. Punjab—

(a) Botanical ..	61,810	0	0	39,810	0	0	22,000	0	0
(b) Entomological (Pink and Spotted Boll-worm) ..	31,109	0	0	26,100	0	0	5,000	0	0
(c) White Fly ..	10,709	0	0	10,209	0	0	500	0	0
(d) Root Rot ..	4,814	0	0	4,975	0	0	161	0	0†
(e) Spraying Trials ..	6,590	0	0	4,390	0	0	2,200	0	0
(f) Physiological ..	17,184	0	0	2,000	0	0	15,184	0	0
(g) Survey of Disease of Malformation ..	2,674	0	0	2,174	0	0	500	0	0

35,79,309¹⁴ 27

Carried over ..

10,40,693

Carried over ..

8,52,667

4

0

1,88,026

4

* Due to late starting of the schemes and expenditure sanctioned last year being incurred this year. The excess will be met from savings of previous year.

† Excess will be met from savings.

Revised Estimates, 1934-35—All Heads—conold.

RECEIPTS.	EXPENDITURE.		Sanctioned budget.	Estimated expenditure.	Savings (+) Deficits (-).
	Rs.	a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward ..	35,70,309	14 7			
			Brought forward ..	10,40,693 8 0	8,52,667 4 0
					1,88,026 4 0
			VII. Central Provinces—		
			(a) Botanical ..	37,742 0 0	37,742 0 0
			(b) Entomological ..	3,380 0 0	2,380 0 0
					1,000 0 0
			VIII. United Provinces—		
			(a) Recurring grant for staff ..	1,103 0 0	1,103 0 0
			(b) Rohilkhand and Bundelkhand Cotton Survey ..	5,300 0 0	5,300 0 0
					
			IX. Institute of Plant Industry, Indore ..		
				1,15,000 0 0	1,15,000 0 0
					
			X. Sind ..	33,438 0 0	30,438 0 0
					3,000 0 0
			XI. Burma Cotton Improvement ..	10,260 0 0	10,260 0 0
					
			XII. Hyderabad—		
			(a) Botanical ..	56,710 0 0	45,710 0 0
			(b) Cotton Survey ..	9,211 0 0	8,411 0 0
			(c) Pink and Spotted Boll- worm ..	10,630 0 0	6,630 0 0
					4,000 0 0
			XIII. Bikaner ..	7,640 0 0	3,640 0 0
					4,000 0 0

XIV. Baroda—

(a) Root Rot	11,718	0	0	10,718	0	0	1,000	0	0
(b) Survey of Goghari-cotton	510	0	0	510	0	0	....		
XV. Bengal Comilla Cotton	3,085	0	0	1,285	0	0	1,800	0	0
Total ..	13,46,420	8	0	11,31,794	4	0	2,14,626	4	0

XVI. Loans recoverable (but considered doubtful)—

(i) Hubli Co-operative Cotton Sale Society, Ltd.	8,063	9	3	15,355	9	3
(ii) Gadag Co-operative Cotton Sale Society, Ltd.	7,292	0	0			

By Balance	..	..	..	24,32,160	1	4
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35,79,309 14 7

Total ..

35,79,309 14 7

Provident Fund Account.

EXPENDITURE.

102

BUDGET, 1935-36—ALL HEADS.

Budget, 1935-36—All Heads.

(As passed by the Indian Central Cotton Committee at its meeting held on the 5th February 1935.)

RECEIPTS.	EXPENDITURE.		Rs.	a.	p.	Rs.	a.	p.
To Opening Balance ..	Rs.	a.	p.	I. A.	Administration ..	1,21,580.	0	0
To Loans Recoverable account ..	..	24,32,180	1 4	B. Improvement of Cotton Marketing—				
	..	15,355	9 3	(i) Cost of Exhibits, moisture tests, travelling allowance of representatives on Board of East India Cotton Association and members of Standards Sub-Committee and cost of Standards ..		18,000	0	0
		24,47,515	10 7	(ii) Cost of growing cotton in India ..		75,693	0	0
Cotton Cess Receipts ..	..	6,00,000	0 0					
Interest account ..	..	1,09,138	0 0					
Miscellaneous receipts ..	..	4,000	0 0					
						98,693	0	0
				C. Seed Distribution and Extension Schemes—				
				(1) Bombay Presidency—				
				(i) Hubli ..		10,094	0	0
				(ii) Gadag ..		10,215	0	0

(iii) Gadag monetary ..	668	0	0
(iv) Haveri ..	2,800	0	0
(v) Athani ..	12,340	0	0
(vi) Bailhongal ..	4,285	0	0
(vii) Surat ..	12,689	0	0
(viii) Khandesh ..	48,695	0	0
(ix) Deccan Canals (Banilla) ..	4,640	0	0

(2) *Madras Presidency*—

(i) Pay and allowance of Business Manager, Tiruppur ..	5,565	0	0
(ii) Co. 2 ..	21,630	0	0
(3) Sind ..	56,753	0	0
(4) Hyderabad State ..	5,320	0	0
(5) Central Provinces— (Extension of long staple cotton and marketing of Verum cotton) ..	42,662	0	0
(6) Baroda ..	5,120	0	0
(7) Punjab—Sale of all farm crop produce..	5,000	0	0

2,48,336 0 0

Carried over ..

31,60,653 10 7

Carried over ..

4,63,609 0 0

Budget, 1935-36—All Heads—contd.

RECEIPTS.

	Rs.	a.	p.
Brought forward ..	31,60,653	10	7

EXPENDITURE.

	Rs.	a.	p.	Rs.	a.	p.
Brought forward ..				4,63,609	0	0
D. Printing and Propaganda—						
(a) Publicity and Propaganda ..	31,312	0	0			
(b) Printing and Distribution ..	11,000	0	0			
				42,812	0	0
E. Statistical Research ..				5,859	0	0
II. Technological Research—						
(1) Technological Laboratory ..						
(b) Working Expenses ..	1,75,715	0	0			
(2) Provincial ..	17,950	0	0			
(3) Development of alternative uses for Indian cottons ..	30,000	0	0			
				2,23,665	0	0
III. Research Studentships ..				10,900	0	0

*Agricultural Research Grants—**IV. Bombay—*

(a) Plant Puller Propaganda Scheme in Surat and Broach districts ..	12,627	0	0
(b) Broach Cotton Breeding Scheme ..	9,652	0	0
(c) Jalgaon Cotton Breeding Scheme ..	7,696	0	0
(d) Survey of Goghari cotton ..	1,250	0	0
(f) Defoliation of cotton seed ..	1,265	0	0

V. Madras—

(a) Herbaceum ..	9,652	0	0
(b) Pempheres and Physiological ..	33,623	0	0
(c) Fodder Cholam ..	4,224	0	0
(d) Breeding of Nadam cotton ..	2,666	0	0
Carried over ..	82,655	0	0

Carried over ..	31,60,653	10	7
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	7,46,545	0	0
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Budget, 1935-36—All Heads—concd.

RECEIPTS.

	Rs.	a.	p.
Brought forward	31,60,653	10	7

EXPENDITURE.

	Rs.	a.	p.
Brought forward	82,655	0	0

	Rs.	a.	p.
	7,46,545	0	0

Agricultural Research Grants—concd.

VI. Punjab—

(a) Botanical ..	37,750	0	0
(b) Entomological (Pink and Spotted Boll-worms) ..	31,784	0	0
(c) White Fly ..	10,878	0	0
(d) Root Rot ..	8,134	0	0
(e) Spraying Trials ..	1,900	0	0
(f) Physiological ..	17,184	0	0

VII. Central Provinces—

(a) Botanical ..	41,276	0	0
(b) Entomological ..	3,393	0	0

VIII. United Provinces—

Rohilkhand and Bundelkhand Cotton Survey ..	5,295	0	0
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IX. Institute of Plant Industry, Indore..

	1,00,000	0	0
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X. Sind ..

	35,154	0	0
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XI.	Burma Cotton Improvement ..	8,640	0	0	
XII.	<i>Hyderabad—</i>				
	(a) Botanical ..	44,024	0	0	
	(b) Cotton Survey ..	9,231	0	0	
	(c) Pink and Spotted Boll-worms ..	15,513	0	0	
XIII.	Bikaner ..	6,366	0	0	
XIV.	<i>Baroda—</i>				
	(a) Root Rot ..	12,240	0	0	
	(b) Survey of Goghari Cotton ..	1,250	0	0	
	(c) Plant Puller Propaganda ..	4,600	0	0	
XV.	Bengal Comilla Cotton ..	3,399	0	0	
XVI.	Mysore Cotton (Doddahathi) ..	2,814	0	0	4,83,570 0 0
XVII.	Loans Recoverable (but considered doubtful):—				12,30,215 0 0
	(1) Habli ..	8,063	9	3	
	(2) Gadag ..	7,292	0	0	
	By Balance ..				15,355 9 3
	Grand Total				19,15,083 . 1 4
	Grand Total				31,60,653 10 7

Budget, 1935-36—Provident Fund Account.

RECEIPTS.		EXPENDITURE.	
	Rs. a. p.		Rs. a. p.
To Opening Balance on 1st April 1935 ..	2,76,072 3 10	By Balance ..	3,33,011 12 10
To Subscribers' contributions ..	22,000 0 0		
To Committee's contributions ..	22,000 0 0		
	44,000 0 0		
To Recoveries against advances ..	3,439 9 0		
To Interest receivable ..	9,500 0 0		
Total ..	3,33,011 12 10	Total ..	3,33,011 12 10

BUDGET, 1935-36—PUBLICITY AND PROPAGANDA.

Sub-heads.	Budget for 1934-35.		Budget for 1935-36.	Remarks.
	Original.	Revised.		
	Rs.	Rs.	Rs.	
1. (a) Salary of Officer ..	12,600	12,600	13,575	
(b) Leave salary ..	....	....	1,000	
2. Establishment ..	2,740	1,985	2,517	
3. Menials ..	334	290	320	
4. Travelling allowance ..	5,000	3,300	5,000	
5. Allowance for translators ..	1,000	200	1,000	
6. Printing ..	6,000	6,000	6,000	
7. Contingencies—				
A. Postage and telegrams ..	500	500	500	
B. Furniture ..	100	100	100	
C. Stationery ..	200	200	200	
D. Exhibits and cost of transport, accommodation, etc.	1,000	500	1,000	
E. Miscellaneous ..	600	300	600	
Total ..	30,074	25,975	31,812	

APPENDIX X.

SUBJECT 41.—*Egyptian Law to prevent the mixing of different varieties of cotton.*

Secretary's Note.

The Egyptian Government have recently passed a Law to prevent the mixing of different varieties of cotton. This Law is of interest to the Committee in view of the attitude taken up by it in regard to the mixing of cotton practised in this country. An English translation of the Egyptian Law, which is in French, is attached.

Decree Law No. 51 of 1934, to prevent the mixing of different varieties of cotton.

We, Fouad I, King of Egypt;

With reference to article 41 of the Constitution;

Regarding the proposal made by Our Minister of Agriculture supported by the opinion of Our Council of Ministers.

DECREEE.

Article 1.—For the purposes of the present law, the expression “variety of cotton” is regarded as including the different varieties of cotton specified in the appendix to the present Law, as well as all other varieties which may be added to this appendix by Order of the Minister of Agriculture.

Article 2.—Subject to the provisions of paragraph 3 of Article 12, it is forbidden that anyone having cotton in his possession or under his control, should mix any variety whatsoever of cotton with any other variety.

The local spinning mills, however, may proceed to mix in any way necessary to their industry, provided that the mixing takes place in the mill itself.

Article 3.—Each time that cotton mixed in contravention of the preceding article is discovered, proceedings will be instituted against the person responsible for the mixing. If the person responsible is not known, proceedings will be instituted against the owner, who, pending proof to the contrary, will be presumed to be the person responsible for the mixing.

The seizing of the cotton will be the concern of the prosecuting agent; it will be retained provisionally, at the expense and risk of the owner, in the place where it has been seized, unless the said agent authorises its removal to another place in the same locality.

Article 4.—On the same day that the seizing takes place, or at latest on the following day, the prosecuting agent will bring the case before the Commission, referred to in Article 10, below, with a view to its investigating and deciding whether or not the cotton can be considered as having been mixed.

If the Commission decides that the cotton is not mixed, or if it does not give its decision within eight full days from the date of the seizure, this seizure, as well as the prosecution with reference to infraction of the law, will be annulled by right of law, and the owner will again have liberty to dispose of his cotton.

Article 5.—If the Commission gives confirmation that the cotton is mixed, the latter, if it is not yet ginned, will be sent to the nearest ginning-mill to be ginned immediately. The cotton will next be despatched to Alexandria, there to be pressed by steam in a pressing-mill; it will then be exported to a foreign country where it will be sold by auction as mixed cotton.

The forwarding, exportation and sale of the cotton, in every case, will be the concern of the Administration and will be done at the expense and wish of the owner.

From the proceeds of the sale there will be deducted, under privilege, as legal costs, all the expenses paid in advance by the Administration on account of custody, ginning, despatching, pressing, exportation, insurance, and all other expenses, including those of sale.

The net price will be handed over immediately to the owner, to the amount of three quarters of the sum; the fourth remaining quarter will be placed to the account of the Administration until definite and final judgment is given regarding the infraction of the law.

Article 6.—The owner of the mixed cotton may, however, request that the exportation be made by him, if, previously, he deposits with the Administration an amount equivalent to one quarter of its value, on the basis of an estimation, which shall have been made finally by the Commission referred to in Article 10.

Before its exportation, the owner of the cotton must also pay to the Administration a sum, which it judges sufficient, to cover the expenses of custody, ginning, forwarding, pressing and all other expenses.

The owner of the mixed cotton may likewise require that his cotton be sold by auction at Minet-El-Bassel, before it is steam-pressed.

In this case, the despatching, pressing or exportation of the cotton will be the concern of the buyer under the control of the Administration. The expenses paid in advance by the Administration will be deducted from the proceeds of the sale and the net sum will be paid to the owner, in accordance with the provisions of the preceding article.

The owner may, finally, request at any moment that the mixed cotton be despatched to a local spinning-mill, if he makes the deposit referred to in the first paragraph. He must also present to the Administration an undertaking by the spinning-mill to utilise the cotton in its works under the control of the Administration and in accordance with conditions laid down by the Minister of Agriculture.

The rights referred to in the present article may be exercised by the pledgee.

Article 7.—Every bale that is water-pressed must bear the mark of the variety which it contains, the name of the ginning-mill and the visa of the agent of the Ministry of Agriculture delegated to the mill.

Bales containing varieties of pure cotton not listed in the appendix of this law must bear the description "not catalogued" without prejudice to the claims of the interested party to add any particular description, which, however, shall not be covered by the visa.

Bales containing cotton whose mixed condition has been proved beforehand, or in the course of the ginning, must bear the description "mixed".

It is, however, understood that the quality of cotton extracted from the hydraulic bales to determine their class and quality, and put together again in a pack-cloth to form a parcel, may be incorporated with the lot to which it belongs, without being classed as "mixed".

Article 8.—No bale of cotton bearing the mark and the visa referred to in the preceding article will be the object of any prosecution or seizure.

Article 9.—Every bale of water-pressed cotton not bearing the stamp and the visa, in accordance with article 7, is considered as containing mixed cotton.

The cotton will be seized by the Administration; the bales will be marked "mixed" and a quarter of the cotton will be confiscated to the Treasury, without any other formality. Legal action will be taken in such a case by the prosecuting agent.

Article 10.—There will be appointed annually, by order of the Minister of Agriculture in each Gouvernerat or Moudirieh, one or several commissions composed of five members, of whom two shall be specialists chosen from the staff of the Ministry of Agriculture and of whom three shall be experts chosen from a list prepared annually, for each Gouvernerat or Moudirieh, the preparation of the list being the concern of the Commission of the Bourse de Minet-El-Bassal.

By exception, however, for the Government of Alexandria, the Commission will be composed of seven members, of whom four will be chosen from the most competent persons in the cotton trade, to be taken from a list prepared annually by the Commission of the Bourse de Minet-El-Bassal, and three from the official experts of the said Bourse.

The Order will likewise nominate substitutes who will be called upon in turn to take the place of the appointed members unable to accept office or absent.

Should it happen that the Commission of the Bourse has not presented to the Ministry of Agriculture, in proper time, the list of experts referred to above, these will be chosen directly by the Ministry.

The decisions of these commissions are final and will not be open to any appeal.

Article 11.—Any person who forwards cotton to a steam-press must inform the agent of the Ministry of Agriculture delegated to the pressing-factory, of the place, day and hour of the pressing, as well as of the number of bales to be pressed, twelve hours at least before the operation.

Article 12.—Every steam-pressed bale must bear the mark indicating the variety of the cotton which it contains.

If the bale contains cotton coming from bales marked "mixed" it must bear the description "mixed".

Nevertheless, in the pressing-mills, the owners of the cotton may, if previously authorised by the Ministry of Agriculture, mix cotton from the classes "fair" and below. The bales containing cotton thus mixed will be marked "Exporter's standard".

The marking of the bales will take place under the control of the agent of the Ministry of Agriculture.

Article 13.—Every exporter of cotton must enter in special books, from day to day, the number of bales of cotton which have come into his possession, by whatsoever title, as well as the number of the bales pressed by him, on his own account or on that of third parties.

The books must indicate the number of bales of each variety, as well as the number of bales marked "mixed".

The agent of the Ministry of Agriculture may, at any moment, examine these books.

Article 14.—The agent of the Ministry of Agriculture may, at any moment, verify the genuineness of the marking in the following cases:—

(a) If it indicates the mixing, during the "farfara," of cottons coming from bales bearing different marks;

(b) If he has not been informed in accordance with article 11.

(c) If the exporter refuses to present to him for inspection the books referred to in Article 13, or if these books afford a presumption of fraud.

Article 15.—Except in the cases referred to above, no bale, steam-pressed and bearing the required mark will be the object of any prosecution or seizure.

Any bale steam-pressed and not marked will be considered as containing mixed cotton. In such a case, action will be taken according to the provisions of Article 9.

Article 16.—In cases where it is ascertained that mixing has taken place in the conditions referred to in Article 14, action will be taken according to the provisions of Articles 3, 4, 5 and 6. But the period referred to in Article 4, paragraph 2, will be reduced to three full days.

Article 17.—Any infraction of the provisions of the present law or of the orders issued to ensure its execution will be punished by imprisonment not exceeding 7 days and a fine not exceeding P. T. 100, or by one alone of these two penalties. In case of contravention of the provisions of Article 2, the sentence will also declare the confiscation to the Treasury of a quarter of the net price of the cotton in respect of which the law has been contravened.

Article 18.—When final sentence is passed there will be assigned to the informers who have led to the disclosure of the offence a lump sum equal to half of the total received by the Treasury by virtue of the preceding Article.

The distribution of this sum among the informers will be made finally by the Administration.

Article 19.—Infraction of the provisions of the present law and of the orders issued to ensure its execution may be declared by any officer of the judiciary police or by any agent of the Ministry of Agriculture specially nominated by the Minister. These agents will be considered for this purpose, as officers of the judiciary police.

They may, in consequence, visit any field, any public or private dépôt and any ginning or pressing-mill. These visits may not, however, be extended to that part of the premises which is set apart exclusively for residence.

Article 20.—Law No. 4 of 1926 to prevent the mixing of varieties of cotton is repealed.

Article 21.—The Minister of Agriculture may, by order, make all the temporary arrangements rendered necessary by the putting into force of the present Law.

Article 22.—Our Minister of Agriculture is charged with the execution of the present Law which will come into force from the date of its publication, in the Journal Officiel. He will issue all orders necessary for its execution.

APPENDIX.

Sakellaridis
Maarad
Nahda
Pilion
Casulli
Achmouni.

Zagora.
Fouadi.
Sakha 4
Guiza 3.
Guiza 7.

Summary Proceedings

of the

Thirty-first Meeting of the
Indian Central Cotton Committee,
Bombay,

held on the

19th and 20th August 1935.



BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.
TOWN HALL, BOMBAY.



Indian Central Cotton Committee.

With the Secretary's Compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

INDIAN CENTRAL COTTON COMMITTEE.

31ST MEETING—19TH AND 20TH AUGUST 1935.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS.

AGENDA.	PAGE.
1. Presidential Address	6
Speech by His Excellency the Governor of Bombay	9
Vote of Thanks to His Excellency	13
2. Confirmation of Minutes	10
3. Comments of the Government of India on the Annual Report of the Committee	10
4. Changes in personnel of the Committee and Sub-Committees	10
5. Formation of a compact block of long-staple cotton in Sind—Resolutions of the Bombay Government	10
6. Campaign for extension, seed distribution and marketing of pure Sind-American cotton	14
7. Licensing of Gins and Presses	14
8. Standardisation of weights for cotton transactions	15
9. First Annual Report of the Lancashire Indian Cotton Committee—Remarks of members of the Indian Central Cotton Committee	15
10. International Cotton Congress held at Milan and Rome—Report of Dr. W. Burns	15
11. Half-yearly Report of the Publicity and Propaganda Officer	16
12. Renewal of agreement of the Publicity and Propaganda Officer	16
13. Cotton Options—Proposed additions and amendments to the Bye-laws of the East India Cotton Association, Ltd.—Reference from the Bombay Government	16
14. Universal Standards for Indian cotton—Progress Report	20
15. Appointment of cotton growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and Reports of members	20
16. Report on the Fumigation of American cotton	21
17. Summary of Proceedings of the Local Sub-Committee	21
18. Crop Forecasts—Scheme for the publication of Cotton Forecasts	21
19. Report of the Cotton Forecast Improvement Sub-Committee	21
20. Report of the Special Sub-Committee on Wider Markets for Indian cotton.	23
21. Technological Research—Progress Report of the Director, Technological Laboratory	23
22. Technological Research—Report of the Technological Research Sub-Committee	24
23. Agricultural Research—General Progress Report	24
24. Progress Report on Brouch Cotton Breeding Scheme	24
25. Progress Report on Jalgaon Cotton Breeding Scheme	24
26. Progress Report on the Scheme for Survey of Goghari Cotton in Gujerat	24

	PAGE.
27. Progress Report on the Scheme for Defibration of cotton seed in the Bombay Presidency	25
28. Progress Report on the Plant Puller Propaganda Scheme in Surat and Broach Districts	25
29. Progress Report on Sind Physiological Research Scheme	26
30. Progress Report on Madras Herbaceum Scheme	26
31. Progress Report on Madras Fodder Cholaam Scheme	27
32. Progress Report on Madras Pempheres and Physiological Research Scheme	27
33. Progress Report on Madras Nadam Cotton Breeding Scheme	28
34. Progress Report on the Punjab Botanical Scheme	28
35. Progress Report on the Punjab Pink and Spotted Boll-worm Scheme.	28
36. Progress Report on the Punjab Cotton White Fly Scheme.. .. .	29
37. Progress Report on the Punjab Spraying Trials Scheme	29
38. Progress Report on the Punjab Root-Rot Scheme	30
39. Progress Report on the Punjab Defibrating and Delinting Scheme ..	30
40. Programme of work of the Punjab Physiological Scheme	30
41. Progress Report on the Central Provinces Botanical Scheme	30
42. Progress Report on the Central Provinces and Berar Entomological Scheme	31
43. Final Report on the United Provinces Entomological Research Scheme ..	32
44. Progress Report on the Scheme for Survey of cotton in Rohilkhand and Bundelkhand, United Provinces	32
45. Annual Report of the Institute of Plant Industry, Indore	32
46. Progress Report on Hyderabad Botanical Scheme	32
47. Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme ..	33
48. Progress Report on Hyderabad Cotton Survey Scheme	33
49. Progress Report on Bikaner Gang Canal Scheme	34
50. Progress Report on Baroda Root-Rot Scheme	34
51. Progress Report on the Scheme for Survey of Goghari Cotton in Baroda State	34
52. Progress Report on Burma Cotton Improvement Scheme	34
53. Progress Report on Bengal Comilla Cotton Scheme	35
54. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Hubli Scheme	35
55. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Gadag (Extension) and Gadag (Supplementary) Schemes	35
56. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Surat Scheme	35
57. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Khandesh (Banilla) Scheme	35
58. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Deccan Canals (Banilla) Scheme	35
59. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Athani Scheme	35
60. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Sind Scheme	35
61. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Madras (Tiruppur) and Co. 2 Schemes	35
62. <i>Seed Distribution and Extension Schemes</i> —Progress Report on the Scheme for extension of Long Staple Cotton and Marketing of Verum cotton in the Central Provinces and Berar	35
63. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Hyderabad Scheme	35

	Page.
64. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Baroda (Navsari Seed Storage) Scheme	35
65. <i>Proposed New Seed Distribution and Extension Schemes</i> —Scheme for introduction and extension of B. D. 8 cotton in Broach District ..	37
66. <i>Proposed New Seed Distribution and Extension Schemes</i> —Scheme for extension of cultivation of Long Staple cotton in Bengal	38
67. Report of the Agricultural Research Sub-Committee	38
68. <i>Report of the Standing Finance Sub-Committee</i>	38
(a) Balance Sheet as at 31st March 1935.	
(b) Final Accounts, 1934-35.	
(c) Revised Estimates, 1935-36.	
(d) Budget for 1936-37 (Government servants).	
69. <i>Provincial Cotton Committees</i> —Proceedings of the Sind Cotton Committee.	38
70. Spread of Garrow Hill or Deorwada cotton in Berar—Letter from the Government of the Central Provinces	38
71. Brochure on past work of the Technological Laboratory and its future programme	40
72. Establishment of regulated cotton markets in the Bombay Presidency ..	40
73. Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee	41
74. Mixing of Punjab-American cotton—Reduction of freight charges by railways for transport of <i>kapas</i>	41
75. Railway freight rates on cotton—Letter from the Director, Railway Board	42
76. Gujerat Boll-worm Clean-up Scheme—Measures for the eradication of the Boll-worm pest in Gujerat.—Letter from the Government of Bombay.	42
77. Broadcasting in the mornings of commercial news on cotton	42
78. Application of Leave Rules to the staff of the Publicity Department ..	43
79. Progress Report on the Scheme for the Improvement of Cotton Forecasts of the Bombay Presidency	43
80. Revised and Extended scheme for the distribution and extension of Jayawant and Gadag No. 1 cotton seed in Southern Division, Bombay Presidency	44
81. Representation of the Indian Central Cotton Committee on the International Federation of Master Cotton Spinners' and Manufacturers' Associations	45
82. Bombay Cotton Control Bill—Bill to provide prohibition of cultivation of Goghari cotton	46
83. Training grant of Mr. Taskhir Ahmad	46
Resolutions passed by the Committee	49

APPENDICES.

I. Minutes of Special Sub-Committee of the Sind Cotton Committee held at Karachi on the 11th February 1935	52
II. Summary of Half-yearly Report of the Publicity and Propaganda Officer	54
III. Amendments to the Bye-laws of the East India Cotton Association.	58
IV. Summary of Proceedings of the Local Sub-Committee	67
V. Report of the Cotton Forecast Improvement Sub-Committee ..	67
VI. Report of the Special Sub-Committee on Wider Markets for Indian Cotton	68
VII. Summary of Progress Report of the Director, Technological Laboratory	70

	PAGE.
VIII. Report of the Technological Research Sub-Committee ..	78
IX. Agricultural Research—General Progress Report ..	80
X. Report of the Agricultural Research Sub-Committee ..	81
XI. Report of the Standing Finance Sub-Committee ..	94
XII. Bombay Cotton Control Bill	99

Present :

His Excellency the Right-Honourable Michael Herbert Rudolf Knatchbull, Lord Brabourne, G.C.I.E., M.C., Governor of Bombay,

Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E., (*President*),
Vice-Chairman, Imperial Council of Agricultural Research,

Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E., (*Vice-President*),
Representative of the East India Cotton Association, Bombay,

B. C. Burt, Esq., C.I.E., M.B.E., I.A.S., Agricultural Expert,
Imperial Council of Agricultural Research, (*ex-officio*),

M. R. Ry. Rao Bahadur D. Ananda Rao Garu, I.A.S., Director of
Agriculture, Representative of the Agricultural Department,
Madras Presidency,

B. S. Patel, Esq., I.A.S., Officiating Director of Agriculture,
Representative of the Agricultural Department, Bombay
Presidency,

R. G. Allan, Esq., I.A.S., Director of Agriculture, Representative
of the Agricultural Department, United Provinces,

J. H. Ritchie, Esq., I.A.S., Director of Agriculture, Representative
of the Agricultural Department, Central Provinces,

S. D. Saklatvala, Esq., M.L.C., Representative of the Bombay
Millowners' Association,

A. A. Sarantides, Esq., Representative of the Bombay Chamber of
Commerce,

Chunilal B. Mehta, Esq., Representative of the Indian Merchants'
Chamber, Bombay,

G. C. R. Coleridge, Esq., Representative of the Karachi Chamber
of Commerce,

Seth Sakarlal Balabhai, M.L.C., Representative of the Ahmedabad
Millowners' Association,

J. Vonesch, Esq., Representative of the Tuticorin Chamber of
Commerce,

J. Tinker, Esq., Representative of the Upper India Chamber of
Commerce,

Y. G. Deshpande, Esq., Commercial Representative, Central
Provinces,

Rao Bahadur G. R. Kothare, M.L.C., Commercial Representative,
Central Provinces,

Akhil Bandhu Guha, Esq., Commercial Representative, Bengal,

- Rao Bahadur M. G. Deshpande, C.B.E., Co-operative Banking Representative,
 K. S. Ramaswami Gownder, Esq., Representative of cotton growers, Madras,
 M. R. Ry. Rao Bahadur B. P. Sesha Reddi Garu, M.L.C., Representative of cotton growers, Madras,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of cotton growers, Bombay Presidency,
 Rao Bahadur C. S. Shirahatti, Representative of cotton growers, Bombay Presidency,
 Sardar Sampuran Singh, M.L.C., Representative of cotton growers, Punjab,
 Mian Nurullah, M.L.C., Representative of cotton growers, Punjab,
 N. M. Deshmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
 J. B. Deshmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
 Nizam-ud Din Hyder, Esq., Director of Agriculture, Representative of the Hyderabad State,
 C. V. Sane, Esq., Director of Agriculture, Representative of the Baroda State,
 H. H. Pandya, Esq., Director of Agriculture, Representative of the Gwalior State,
 F. K. Jackson, Esq., Director, Institute of Plant Industry, Indore, Representative of Rajputana and Central India States,
 D. N. Mahta, Esq., Economic Botanist for Cotton, Central Provinces,
 Rao Bahadur S. S. Salimath, Deputy Director of Agriculture, Southern Division, Dharwar,
 M. R. Ry. V. Ramanatha Ayyar, Avargal, Cotton Specialist, Coimbatore,
 Musahib-i-Khas Bahadur S. V. Kanungo, Finance Minister, Representative of the Indore State,
 K. I. Thadani, Esq., Botanist in Sind, Sakrand,
 Khan Bahadur Nawab Fazl-i-Ali Khan, Chairman, District Board and President, Central Co-operative Bank, Ltd., Gujrat, Punjab,
 Khan Saheb Farrukhbeg Sadikalibeg Mirza, Nawabshah, Sind,
 Chellaram Shewaram, Esq., Representative of the Karachi Cotton Association, Ltd.,
 The Secretary (P. H. Rama Reddi, Esq., I.A.S.),
 The Director, Technological Laboratory (Dr. Nazir Ahmad), and
 The Publicity Officer (R. D. Mihra, Esq.).

By invitation.

- The Honourable Dewan Bahadur S. T. Kambli, J.P., Minister for Education, Government of Bombay,
 The Honourable Khan Bahadur D. B. Cooper, Member for Revenue and Finance, Government of Bombay,

Kasturbhai Lalbhai Esq., Pankore's Naka, Ahmedabad,
 V. A. Tamhane, Esq., I.A.S., Officiating Chief Agricultural
 Officer in Sind, Karachi,
 Mazhar Husain, Esq., Director of Statistics, H. E. H. the Nizam's
 Government, Hyderabad, Deccan,
 M. D. Williams, Esq., British Cotton Growing Association (Punjab),
 Ltd., Khanewal,
 Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,
 Dr. V. N. Likhite, Officer in charge, Cotton Root-Rot Scheme,
 Baroda,
 G. R. Ambekar, Esq., Provincial Officer in charge, Cotton Forecast
 Improvement Scheme, Bombay.

Letters and telegrams were received from the following members
 regretting their inability to attend the meeting :—

H. R. Stewart, Esq., I.A.S., Director of Agriculture, Representative of the
 Agricultural Department, Punjab,
 F. D. Odell, Esq., I.A.S., Deputy Director of Agriculture, Representative of
 the Agricultural Department, Burma,
 The Director-General of Commercial Intelligence and Statistics, Calcutta,
 W. Roberts, Esq., C.I.E., Representative of the Empire Cotton Growing Cor-
 poration,
 J. Nuttall, Esq., Commercial Representative, Madras,
 Khan Bahadur Sardar Habibullah, M.L.C., Commercial Representative,
 Punjab,
 Rai Bahadur Lala Anand Sarup, M.L.C., Representative of cotton growers,
 United Provinces,
 Khan Bahadur Shah Nazar Husain, M.L.C., Representative of cotton growers,
 United Provinces,
 Dr. V. K. Badami, Representative of the Mysore State,
 Seth Isserdas Varindmal, Representative of the Indian Merchants' Associa-
 tion, Karachi.

President's Speech.

YOUR EXCELLENCY AND GENTLEMEN,

It is once again my privilege to tender to Your Excellency on behalf
 of the Indian Central Cotton Committee a cordial welcome to this
 meeting and to express to you our deep sense of appreciation of this
 further proof of your interest in our work. We are fully sensible
 of the fact that your presence amongst us to-day has only been rendered
 possible at the sacrifice of considerable personal inconvenience and
 much valuable time and whilst regretting that we should be the cause
 of these we are nevertheless gratified that these considerations have
 not been permitted to stand in the way of your attending this meeting.
 It is no little encouragement to the members of this Committee in
 general and to the businessmen of Bombay in particular who un-
 grudgingly devote so much of their time and thought to its many-sided
 problems to find the Head of the Government of this Presidency
 evincing so deep an interest in the work of which they bear so large
 a share. We heartily appreciate the personal touch which you, Sir,

and your predecessors in office have maintained with this body and we make bold to entertain the hope that the cordial relations thus established will continue in the years to come.

It also gives me great pleasure to extend a hearty welcome to the Hon'ble Khan Bahadur D. B. Cooper and the Hon'ble Dewan Bahadur S. T. Kambli who, in order to be with us to-day, have doubtless had to set aside other pressing calls on their time. We thank them for this evidence of their interest in our work.

On the last occasion, not so long ago, when Your Excellency was pleased to honour us with your company I was privileged to acquaint you with the nature of the work undertaken by this Committee, with its aims, its aspirations and its successes in the field of cotton improvement in all its aspects. Thanks to the willing and hearty co-operation of every member on this body not only has the work to which it has set its hand been further advanced and in some instances even completed, but our activities have also greatly expanded and extended in several new directions. I can do no more than barely mention some of the subjects which this Committee has dealt with since your last visit to us. Combating of the spread of inferior types of cotton in the better stapled cotton tracts in Gujerat and parts of the Central Provinces, finding of wider markets for Indian cotton, the possibility of growing long staple cotton in short stapled tracts, measures for improving the accuracy of cotton forecasts, the examination of the possibility of using short staple cotton for the manufacture of artificial silk—these are some of the problems which have been engaging our attention. In pursuance of its aims the Committee has never wavered from its established policy which is to endeavour to secure a better return for the product of his toil to the grower who, unfortunately, both by temperament and circumstance, is ill equipped to help himself.

As is usual at our monsoon meeting we take stock of the work done during the past year on the various schemes financed by the Committee and for this reason, as you will see, progress reports figure prominently in the agenda of this meeting. In the consideration of these reports, however, our work has been greatly simplified, as they have already been carefully examined by Sub-Committees, whose recommendations are now before you.

The Resolution of the Government of Bombay on the recommendation of this Committee for the formation of a compact block of 300,000 acres in the Barrage areas of Sind for the production of long staple cotton is one of the subjects on the agenda of this meeting. Whilst we appreciate the very thorough manner in which this question has been dealt with by the Local Government and the officers of the Departments concerned, we must confess to a feeling of disappointment that the measures advocated by the Local Government to secure the end which the Committee has in view have not been backed by proposals for legislation. I shall not anticipate discussion on this important subject but I have no doubt that Your Excellency will give due consideration to the views of the Committee if it is decided to refer the question once again to the Local Government.

Another important subject on our agenda is the licensing of gins and presses and members will note that the Government of India are not prepared to undertake central legislation for the introduction of a

system of licensing gins and presses—a measure which we considered necessary in the interests of the cotton trade. We can derive some satisfaction, however, from the fact that the Bombay and the Central Provinces Governments are contemplating with the approval of the Government of India the question of introducing such a measure in their Provincial Legislative Councils. It is understood that the Central Provinces Bill has already been framed. We trust that as the beneficial effects of their action become gradually apparent other Local Governments will not be slow in following suit.

Yet another subject in which we are keenly interested is the revival of the system of early morning broadcast of commercial news pertaining to cotton. We are not aware if there are considerations, other than financial, which stand in the way of acceptance of our recommendation, but I am sure that the subject is receiving the careful consideration of the Government of India.

The Lancashire Indian Cotton Committee, which was established in 1932 in England with the object of extending the use of Indian cotton in Lancashire, is steadily forging its way ahead in pursuance of this policy. Its first Annual Report, published early this year, contains a fund of useful information which is evidence of the very thorough manner in which its members are grappling with the problems facing them. Through the good offices of that body Indian cotton is now being used for purposes for which it was not even considered two years ago. At this end the Indian Central Cotton Committee recognises to the full the necessity for co-operating to the maximum extent possible with the Lancashire Committee. We are alive to the fact that the success of the measures undertaken in Lancashire has a direct bearing on the prosperity of the cotton grower in India.

You will see from the papers before you that the Bombay Government have responded to the representations of this Committee for the elimination by legislative action of *Goghari* cotton in the Surat tract by proposing to introduce at an early session of the Council a Cotton Control Bill which has for its object the prohibition of the cultivation of *Goghari* cotton, of its mixture with any other kind of cotton, of its possession or of its use for trading purposes. This Committee noted with considerable apprehension the serious danger to which the 1027 A.L.F. cotton crop in the Surat tract was exposed by the increasing spread in recent years of *Goghari* cotton but the timely action of the Bombay Government will now go a far way to stem its further invasion and save the cotton grower from the ruin with which he was threatened.

I do not wish to take up any more of your time by referring to the other subjects of importance or interest on the agenda as I am sure you are anxious to deal with them with as little delay as possible. I have, however, one more duty to perform and that is to extend a hearty welcome to the new members who have been appointed to this Committee since last we met. Mr. Durutti who took the place of Mr. Moore on the latter's retirement as the representative of the Bombay Chamber of Commerce has now resigned and been replaced by Mr. Sarantides. In Mr. J. Tinker who replaces Mr. E. J. W. Plummer, Rao Bahadur B. P. Sessa Reddi who replaces Mr. K. Sarabha Reddi, Mr. K. I. Thadani in place of Mr. W. J. Jenkins and Rao Bahadur D. Ananda Rao in place of Mr. S. V. Ramamurty, we welcome old friends though we shall naturally miss those gentlemen whose places they fill.

His Excellency the Governor's Speech.

MR. PRESIDENT AND GENTLEMEN,

I am very glad to have a second opportunity of meeting you, and to hear an account of the progress made by your Committee during the year.

I am well aware of the importance of your work and of the great benefit to the cotton trade and to the producers which would accrue if the objects at which you are aiming could be attained. I am, therefore, in full sympathy with your efforts, and if my Government is not able, in all cases, to use the methods which you recommend for the attainment of those ends, you must not conclude therefrom that they are antagonistic or indifferent to those ends.

The first problem is the elimination of inferior cotton from the Surat area. There is no question as to the necessity for this if the better qualities are to get a good market. My Government is undertaking propaganda to assist your efforts in this direction and hope that this may be helpful. A Bill has, however, been drafted, though not yet finally approved, and it will be introduced as soon as possible after official sanction has been accorded to it.

Your scheme to eradicate the Surat boll-worm was so far successful that it increased the output by over 25 per cent., and I congratulate you on this result and hope that your more recent scheme to popularise the cotton plant puller will be effective. Here, again, you have asked for legislation, but after careful consideration Government are of opinion that it would be unwise to undertake legislation for this purpose simultaneously with that required for the elimination of inferior cotton.

Your recommendation that a compact area in Sind under the Lloyd Barrage should be set aside for the production of long staple cotton has been accepted by Government, and they have reserved the area south of the Jodhpur Railway for this purpose. They have not undertaken any legislation as they desire to see the result of organization of seed supply and of marketing before deciding to do so. Personally, I believe these methods will have the required effect, but, if these fail to secure the desired result, Government will readily consider any representation you may have to make.

As regards the licensing of gins and presses to prevent the evils of mixing, which have done so much to spoil the reputation of Indian cotton, the Government of India are, as you say, not willing to undertake legislation. I am glad to say, however, that they have no objection to the preparation of such a Bill by the Government of Bombay. A Bill is, therefore, being prepared, and I hope it will be possible to introduce it during the coming session of the Legislative Council. I hope your Committee will give its support to the passing of this Bill, and also assist, in every way which is open to you, its proper and effective administration when it has become law.

I am glad to note your cordial co-operation with the Lancashire Indian Cotton Committee, as I am sure that the encouragement of mutual trade will be advantageous to both countries. Lancashire is

ready to make more use of Indian cotton, but it demands some uniformity as to quality, and your efforts in securing this result, which will greatly enhance the marketable value of Bombay cotton, have my whole-hearted support.

In conclusion, let me repeat how glad I am to be with you this morning. I only wish my engagements could permit me to listen to more of your discussions than I will, in fact, be able to do, but you may rest assured that I will follow them closely in the press and that they will receive the attention which is due to the considered opinions of a body of men who have done, and are doing, such splendid work to help and encourage one of India's great industries.

This is probably the last meeting of this Committee over which Dewan Bahadur Sir T. Vijayaraghavacharya will preside, and I would like to express my own personal admiration of the splendid work he has put in on your Committee to help the cotton growers and the cotton industry generally. I have seen a good deal of him during the last eighteen months and he has always been very ready to help me with any information I wanted on the cotton trade of this country. I am most grateful to him and wish him every happiness and success.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting were confirmed.

SUBJECT 3.—*Comments of the Government of India on the Annual Report of the Committee.*

The letter from the Government of India expressing their appreciation of the good work done by the members and the Secretary of the Committee was recorded.

SUBJECT 4.—*Changes in personnel of the Committee and Sub-Committees.*

The Secretary's note* was recorded.

SUBJECT 5.—*Formation of a compact block of long staple cotton in Sind—Resolutions of the Bombay Government.*

At its meeting in August, 1934, the Indian Central Cotton Committee considered a note by the Chief Agricultural Officer in Sind proposing the establishment of a compact block of long staple cotton in the Barrage areas in Sind, and referred it for examination to the Special Sub-Committee which was appointed to consider the question of finding wider markets for Indian cotton as a result of the Japanese boycott of Indian cotton. This Sub-Committee passed a resolution recommending the formation of a compact block of 300,000 acres of long staple cotton in the Barrage areas of Sind by co-ordinated effort, including legislation, if necessary, intensive seed supply, improved marketing organization, better communications and ginning facilities. The views of the Committee were communicated to the Government of Bombay who issued the following two Resolutions:—

Resolution No. 2160/33, dated the 8th March 1935.—

Government agree with the view that at present Sind in its Barrage areas offers a good prospect of a considerable increase of cotton but that if a glut of short staple

cotton is to be avoided, steps are necessary to prevent the cultivation of this type of cotton wherever possible. They approve the proposal for the formation of a compact block, large enough when fully developed to permit not less than 300,000 acres to be annually cropped with long staple cotton. They consider that the area south of the Jodhpur Railway would be suitable for such reservation. They do not, however, favour immediate legislation to prevent the growing of short staple cotton in this area, nor do they think that any discrimination in assessment on long and short staple cotton should be made to enforce the cultivation of the former variety only. In their opinion, licensing of gins and presses, use of special marks in licensed factories, seed supply organisation, organised marketing and other methods of improving the seed supply would be adequate to ensure the reputation of long staple cotton without restrictive legislation or enhancement of assessment. Government agree with the Chief Agricultural Officer in Sind as regards the necessity of licensing gins and presses in Sind but they do not think such licensing will be necessary to begin with, except in the reserved area where alone it is necessary to introduce the use of special marks. It may, however, be necessary to license such factories not only in the reserved area but also within a certain distance outside it, to which cotton from the reserved area may be taken for ginning and pressing. Until, however, the Local Governments, are vested with the necessary powers for the licensing of gins and presses it will not be possible to control the ginning factories nor enforce the use of special marks in the licensed factories. The question of amending the Cotton Ginning and Pressing Factories Act is at present receiving the attention of the Government of India. For the present action should, therefore, be confined to the organization of seed supply, marketing, etc., on the lines indicated in the Chief Agricultural Officer's note. With regard to paragraph 10 of that note, the attention of the Chief Agricultural Officer should be invited to the remarks made by the Indian Central Cotton Committee in their letter No. 838, dated 11th October 1934. As regards his proposal for the total abolition of the March closure of canals by the Irrigation Department, Government agree with the Commissioner in Sind that the question should wait until further experience has been gained of the possibility of completing repairs to the Barrage in the December closure. As regards the possibility of the introduction of auction sales of cotton in the reserved area, the attention of the Chief Agricultural Officer is invited to the information furnished by the Directors of Agriculture, Presidency proper and the Punjab. The experience of the Agricultural Department in the Presidency proper in this regard has been favourable. The Chief Agricultural Officer in Sind should be requested to investigate, in consultation with the Registrar of Co-operative Societies, the possibility of co-operative sale of American cotton in Sind. If the cultivator realises a better price by such sale he will, all the more, be encouraged to grow American cotton. Assistance by the Agricultural Department will be necessary and that department will have to conduct the sales in the beginning. As regards the possibility of establishing direct purchasing agencies within the reserved area, the Chief Agricultural Officer is requested to take up the question direct with large consumers of Sind cotton after the compact block is established.

Resolution No. 2160/33, dated the 11th May 1935.—

Government agree with the Registrar that in the initial stages the work of supplying seed should be left to the Sind Provincial Co-operative Bank. The Chief Agricultural Officer in Sind should be requested to take steps to open depots at suitable places in consultation with the Sind Provincial Co-operative Bank. The Registrar of Co-operative Societies should in the meanwhile find out avenues for the purpose of organising sale unions undertaking supply of seed at suitable centres in the Barrage area.

2. As regards sale of cotton Government do not think that the Registrar's proposal to entrust the task to the Sind Provincial Co-operative Bank and the Zamindari Banks by making arrangements to advance the necessary finance against deposit of produce would be very effective. Finance is only one side of the question. The sale of cotton of good quality in large quantities is necessary if good prices are to be realised by the *zamindars*. This can best be done by the organization of sale societies. If the necessary material for such societies is not available, the Agricultural Department should, in the first instance, organise such sales, taking, if necessary, the help of the co-operative banks for supplying the necessary finance. The Chief Agricultural Officer should consider whether action on these lines is feasible.

Summary of discussion.

Mr. Coleridge expressed himself in agreement with the Bombay Government who were against the introduction at present of legislation for the creation of the compact block in view of the fact that the growing of short staple cotton in the proposed block had already been greatly reduced by propaganda. He strongly urged, however, the immediate introduction of the Bill for the licensing of gins and presses to prevent not only the mixing of *desi* with American cottons but, what was a greater evil, also the mixing of 4-F cotton with the superior 289-F and N.T. types, as such mixing greatly reduced the value of these cottons. He also suggested that the Bill should contain a provision declaring what types of long staple cotton could be grown in the tract: this necessarily implied that the Agricultural Department would be in a position to supply the required types of seed. He further stressed the necessity of applying the Cotton Transport Act to the proposed block to prevent the entry of outside growths into it and also of prohibiting the export of *kapas* grown in the block as soon as *desi* cotton had been eliminated from it. He moved the following Resolution:—

RESOLUTION.—“With reference to Bombay Government’s Resolution of the 8th March, the Indian Central Cotton Committee appreciates the fact that the Local Government agree fully with the recommendations of the Chief Agricultural Officer in Sind, namely, that the compact block of long staple cotton in Sind can only be achieved by licensing of gins and presses, use of special marks in the licensed factories, seed supply organization and organised marketing.

The Indian Central Cotton Committee now urges Government to translate these recommendations into action with the least possible delay and trusts they will not hesitate to introduce whatever legislation is necessary if the above measures prove inadequate. It further recommends, firstly, that the compact area be reserved for the growth (from specially selected Government seed) of long staple cotton only, such as 289-F and N. T., and secondly that the Transport Act be introduced to prevent the importation of *kapas* from outside areas.”

Mr. Saklatvala in seconding the resolution endorsed the views of Mr. Coleridge and added that the Bombay mills would pay the necessary premium if the cotton grown in the proposed block was unmixed. Mr. Kasturbhai Lalbhai supported the resolution and strongly urged the enactment of legislation specifying what types of cotton should be grown in the compact block and also for the licensing of gins and presses to stop the mixing of inferior with superior types of cotton. Indian mills, he said, had greatly increased their consumption of long staple cotton, for which purpose imported cotton was being used at present, but they would gladly use similar quality Indian cotton if available and pay adequate premiums for it. Sind was the only area in India capable of producing cotton which could replace imported cottons. Mian Nurullah also supported the resolution and urged the immediate introduction of legislation for the creation of the compact block before the practice of growing different types of cotton in the block become established. He also favoured legislation for the marketing of cotton, the supply of pure seed and the licensing of gins

and presses. He favoured the supply of pure seed through the agency of influential *zamindars* rather than through Government farms to win the confidence of the cultivator. As a further incentive to the cultivator to grow only pure seed he stressed the necessity of the payment of proper premiums for pure cottons. *Mr. Thadani* expressed his agreement regarding the undesirability of mixing 4-F with N.T.'s and 289-F and said that it was the intention of the Agricultural Department to eliminate both *desi* and 4-F from the proposed compact block. The Department intended issuing in the block a selected strain known as *Sind Sudhar* which was derived from 289-F but had a high ginning percentage and better yielding qualities. They had seed of this type for 20 to 30 thousand acres at present and this was being rapidly multiplied. Multiplication was carried out on the unit system in five stages, the first being the research station, the second the Government farm, the third registered selected growers, the fourth registered co-operative societies and the fifth general cultivation. If the measures taken by the Department to eliminate the inferior types of cotton were found after some time to be ineffective, Government would be asked to undertake legislation. He felt that the spread of long staple cotton in the block could be effected without having recourse to legislation if good premiums were paid for the superior cottons produced. The Agricultural Department had also grown certain types of cotton capable of spinning 70s to 80s counts and although the outturn of these cottons at first compared unfavourably with *desis* and Americans profitable yields had since been obtained and these cottons were therefore likely to appeal to growers. *Mr. Chellaram Shewaram* said that as merchants wanted a bright shiny cotton, 289-F cotton could not be sold pure except at a loss, whereas with a mixture of 25 per cent. *desi* premiums were obtained; this therefore led to mixing. Owing, however, to better prices being paid for long staple cottons the growing of *desi* and 4-F in the block was gradually being discontinued. He also drew attention to the serious lack of means of communications in Sind. *Mr. Coleridge* in concluding the debate adhered to the view expressed by him that as a result of propaganda the compact area would be a *fait accompli* in two or three years but that legislation for the licensing of gins and presses to prevent mixing was essential. He did not advocate the extension of cottons capable of spinning 70s to 80s counts as he did not consider them suitable substitutes for long staple Egyptian cottons. He emphasized the necessity of eliminating 4-F cotton from the block and the production of cottons capable of spinning 30s to replace imported cotton.

Mr. Saklatvala proposed a hearty vote of thanks to His Excellency the Governor of Bombay, who was leaving at this stage, for the great interest he had shown in the work of the Committee.

His Excellency the Governor thanked the Committee for its kind references to him and said that its views would be considered when the Bill for the licensing of gins and presses was being drafted by the Bombay Government. He further expressed the hope that when Sind became a separate province, its problems would be more satisfactorily dealt with.

SUBJECT 6.—*Campaign for extension, seed distribution and marketing of pure Sind-American cotton.*

At its meeting in August 1934, the Committee considered certain suggestions made by the Sind Provincial Cotton Committee, on the subject of the extension, seed distribution and marketing of pure Sind-American cotton and decided to refer them back to the Provincial Cotton Committee for re-examination as to the extent to which any of them could be given effect to. These suggestions* after consideration by a Special Sub-Committee of the Sind Provincial Cotton Committee were forwarded to the Committee whose views were as follows:—

Item 1 being covered by the discussion on the subject of the formation of a compact block of long staple cotton in Sind was not commented on; on subjects 2, 3, 5 and 6 the Committee had no remarks to make whilst the proposals contained in subjects 4, 13 and 15 were considered impracticable. As regards subject 7, it was decided to include Sind-American, 289-F-1 and 4-F-98 in the list of standard cottons tested annually at the Technological Laboratory and to take up the consideration of subject 8 when definite proposals were received. Subjects 9, 10, 11 and 12 were considered to be matters for consideration by the Sind Cotton Committee and subjects 14 and 16 by the Bombay Government and the Sind Agricultural Department respectively. Subject 17 was not considered as it was covered by the proposals for the licensing of gins and presses.

SUBJECT 7.—*Licensing of Gins and Presses.*

In order to stop malpractices such as mixing, watering, etc., of cotton in gins and presses the Indian Central Cotton Committee, in 1924, recommended to the Government of India that the Cotton Ginning and Pressing Factories Act should contain provision for the licensing of gins and presses and this Resolution was reaffirmed by the Committee at its meetings in 1933, 1934 and February 1935. In June 1935, the Government of India intimated that they were not prepared to undertake central legislation but that they had no objection to Local Governments introducing the necessary legislation in their own Councils.

Summary of discussion.

Mr. Nizam-ud Din Hyder said that the Hyderabad State had already introduced the system of licensing but that this had led to some dissatisfaction as no corresponding legislation had been passed in British territory. *The President* said that the Central Provinces Government and the Bombay Government both intended to introduce the necessary legislation. *Mr. Ritchie* suggested that when the Central Provinces Bill was sent for criticism to the Committee, the Central Provinces members of Council on the Committee might be invited to attend the meeting of the Local Sub-Committee at which the Bill would be considered so that they might be fully acquainted with the views of the Committee; this was agreed to. *Rao Bahadur Kothare* urged that in considering the Bill care should be taken to ensure that the real offenders only were penalised and *Mr. Saklatvala* desired that the interests of the grower should always be borne in mind even if this meant some hardship to the factory-owner.

The decision arrived at was that copies of the discussion should be sent to the Government of India and Local Governments so that they might be acquainted with the views of the Committee on the subject.

* Appendix I (page 52).

SUBJECT 8.—*Standardization of weights for cotton transactions.*

The Secretary's note which was recorded reported the action taken by Local Governments and Indian States to give effect to the Committee's recommendation that the Railway *maund* of 82-2/7 lb. and the Bombay *khandy* of 784 lb. should be adopted as units of weights for cotton transactions. The United Provinces and Central Provinces Governments and the Gwalior State have accepted the Committee's recommendations. The Bombay and Punjab Governments have prescribed the Railway *maund* of 82-2/7 lb. and the Madras Government the Bombay *khandy* of 784 lb. The Baroda and Indore States have adopted the Railway *maund* of 82-2/7 lb. In view of the divergence of opinions received from important commercial bodies consulted, the Bombay Government considered it undesirable to prescribe the *khandy* of 784 lb. as a unit of weight.

The proposal of the Sind Cotton Committee that the Bombay Government should request the Government of India to introduce legislation prescribing standard weights and measures throughout India was recorded.

SUBJECT 9.—*First Annual Report of the Lancashire-Indian Cotton Committee—Remarks of members of the Indian Central Cotton Committee.*

A note by the Secretary containing the views of members on the first report of the Lancashire Indian Cotton Committee was considered.

Summary of discussion.

Mr. Coleridge suggested that the Indian Central Cotton Committee should arrange for annual meetings to be held in Liverpool between representatives of the Committee who might be in England and of the Lancashire Cotton Committee at which matters of interest to both bodies might be discussed. Mr. Saklatvala endorsed the proposal and suggested that the Local Sub-Committee should work out the required details. Mr. Chunilal B. Mehta proposed that in order that the representatives from India might express unanimous views a preliminary meeting of the Indian representatives should be held in Bombay. Referring to the report of the Lancashire Indian Cotton Committee he considered that that Committee should push on with their efforts till the consumption of Indian cotton by the Lancashire mills reached at least a million bales. Mr. Burt suggested that the Local Sub-Committee when examining Mr. Coleridge's proposal should also consider the question of utilising the services of Mr. W. Ellis Jones, a late Vice-President of the Committee, now permanently resident in Liverpool, as a link between the Committee and the Lancashire Committee.

The following Resolution was carried unanimously :—

RESOLUTION.—"The Indian Central Cotton Committee wishes to express its appreciation of the efforts made by the Lancashire Indian Cotton Committee to extend the use of Indian Cotton in Lancashire as indicated in their first Annual Report and to assure that Committee of its desire to co-operate to the fullest extent possible in all matters affecting the interests of both bodies."

SUBJECT 10.—*International Cotton Congress held at Milan and Rome—Report of Dr. W. Burns.*

The report of Dr. Burns, who was appointed to represent the Committee at the International Cotton Congress held at Milan and Rome in 1935, was recorded.

SUBJECT 11.—*Half-yearly Report of the Publicity and Propaganda Officer.*

The half-yearly report* of the Publicity and Propaganda Officer was recorded.

SUBJECT 12.—*Renewal of agreement of the Publicity and Propaganda Officer.*

It was decided to recommend to the Government of India that the pay of the Publicity Officer for the renewed period of his three-year agreement should be Rs. 1,000-50-1,100 as previously approved by the Committee instead of Rs. 950-1,000-1,000 as sanctioned by Government.

SUBJECT 13.—*Cotton Options—Proposed additions and amendments to the Bye-laws of the East India Cotton Association, Ltd.*

The Indian Cotton Committee in 1917-19 clearly stated in its report that all speculative transactions in "Kutchia Khandis," "Kutchia Americans" or "Single and double options" should be entirely prohibited. The Cotton Contracts Act Committee appointed by the Government of Bombay in 1930 found that "Teji Mandi" transactions were a feature of the Cotton Trade in Bombay and there were only two alternatives, either to suppress them or to recognise and bring them under control. That Committee, after full consideration, recommended the framing of by-laws to recognise "Cotton Options." This recommendation has been given effect to by the East India Cotton Association, by forwarding to the Government of Bombay for approval a set of amendments† to their bye-laws.

In Liverpool such transactions—Options—are not recognised, though they are not prohibited; in New York they are entirely prohibited.

At the extraordinary general meeting of the East India Cotton Association at which the proposed additions and amendments to the by-laws were passed, Sir Ness Wadia stated that the Bombay Millowners' Association was entirely opposed, in principle, to "Options" business being recognised by the East India Cotton Association.

Under these circumstances, the Bombay Government, considering that the interests of the cotton growers should be fully safeguarded, desired to assure themselves that by agreeing to the proposal of the East India Cotton Association, gambling in futures would not be encouraged to the detriment of the interests of the growers. On this point the Bombay Government desired to ascertain the views of the Committee.

Summary of discussion.

Explaining the subject in simple language, Mr. N. M. Deshmukh said that option dealing was the direct result of two men, who had nothing better to do than to try to get something for nothing, dissenting from each other in the course of their conversation on the fluctuations of cotton rates in the future. The man who thought prices would go up called upon the other to have the courage of his conviction and make him an offer of certain number of bales with the right to demand them on a subsequent date at the rate prevailing on the day on which this bargain was struck. However, to protect himself against undue loss in a falling market, the purchaser asked for the right to buy or refuse to take delivery of bales in question at his option and for this concession on the part of the seller the purchaser of the option agreed to pay a premium to the seller of the option. An option to buy was called "Teji" option. It might also be the other way; anticipating

* Appendix II (page 54).

† Appendix III (page 58).

a fall in prices an option to sell might be purchased. This was called "Mandi" option. Sometimes it was both ways and it was then called "Teji-Mandi" option. Whatever it was, the whole transaction was fictitious as neither party wanted cotton. Further it was not regulated by the supply and demand for cotton. He, therefore, fully agreed with those who thought that option dealings were harmful to the interests of cotton growers, inasmuch as they introduced into the cotton market a powerful and extraneous vested interest. At the same time he recognised the fact that these dealings had been going on for a long time past without much perceptible harm to the grower. Moreover, in the eyes of the law of the land these dealings were not illegal. The result was that these transactions were so voluminous that about 9 lakhs bales were annually dealt with. The crux of the situation was this: there was a widespread practice not beneficial either to the growers or to the trade and Government were not prepared to penalise it under the Gambling Act. What then could the trade do but try and minimise the evil by bringing the contract and the parties concerned under the rules, regulations, and discipline of the East India Cotton Association? It was to the credit of the trade, that failing all other methods to protect the interests of the grower by eradicating this evil, they had, as a last resort, come forward with this proposal to bring the contract under control. In the circumstances he thought it was the duty of growers to support the proposal.

Mr. Vonesch said that a large volume of the business in the forward market was the direct result of the exercise of options but as such options tended to increase speculation and were not beneficial to the growers they should be condemned. There were several kinds of option dealings in the Bombay market but as they could not be declared illegal he agreed to the legalising of monthly and yearly options only provided all others were stopped.

Mr. Y. G. Deshpande was in favour of options as he considered that such dealings kept the market up and helped growers to realise good prices.

The Vice-President said that while he was waiting to hear the proposals of the East India Cotton Association being adversely criticised by some of the growers' representatives, it was somewhat surprising to him that whatever they had said till then was in the direction of either supporting the action of the East India Cotton Association or, giving it a much larger support than he had been prepared to look forward to from any member of the Committee. He congratulated *Mr. N. M. Deshmukh*, on the keenness with which since his nomination on the Board of the East India Cotton Association, he had tried to acquaint himself with the intricacies of cotton marketing. If not already an expert on these matters, *Mr. Deshmukh* was well on the way to it. He was also impressed with the just and impartial manner in which *Mr. Deshmukh* had presented his case. As the representative of the East India Cotton Association on the Committee, he felt it necessary to draw attention to some of the oversights in some of the memoranda received on this subject. One of the views expressed against the legislation of options and which referred to the McKenna Committee of 1919 missed the mark by overlooking one of the most important motives of the East India Cotton Association in putting

forward its proposals and was at variance with the recommendations of the Wiles Committee of 1930, which were made unanimously save for one dissident—Sir Ness Wadia. He emphasised the fact that on this Committee both the Chamber of Commerce and Millowners' Associations were represented and that it was presided over by one of the most experienced officers of the Bombay Government. In the face of these remarks of the Wiles Committee, which made in 1930 a thorough study of the option business in Bombay and elsewhere as it then existed, it was a distant cry to refer to what had been said 12 years ago by the McKenna Committee, which was only concerned with the broad outlines of the growing, marketing and manufacture of cotton in India as a whole, and which could not have studied this particular question with the thoroughness with which the Wiles Committee did in 1930. He, therefore, disagreed with those, who, along with Sir Ness Wadia, refused to learn the changes wrought by the flow of time. Did they seriously mean, he asked, that the Wiles Committee wasted its time, and that its recommendations, unanimous but for a single dissident, were to be lightly brushed aside by the East India Cotton Association? He might have agreed with the views expressed against the proposed by-laws had it been shown what practical benefits the agriculturists now had by leaving uncontrolled and unrecognised what was, as a matter of fact, going on from day to day and in a manner likely to endanger genuine trade. Seeing the state of affairs as it now existed in the Bombay market, could it be said that no cognizance should be taken of it? The only answer to this being in the negative, he said he would further like to know how effect could be given to the suggestions that the East India Cotton Association should stop option business altogether. Quoting from page 27 of the Wiles Committee Report he pointed out that the Advocate General, and another leading Counsel in Bombay, had advised that under certain circumstances these transactions were valid under the existing law of the land. Nor were the Government of Bombay prepared to pass any new legislation to penalise these transactions, and yet the East India Cotton Association was expected to control the trade of Bombay. It was eminently clear that, thus handicapped, no ordinary institution could be expected to accomplish what was expected of it, and any criticism of the actions of the East India Cotton Association on this account was grossly unjust and fit only to be consigned to the waste paper basket. He made this statement not lightly but in the full responsibility of the Presidentship of the East India Cotton Association, and from his wider and fuller experience of the Bombay cotton trade for the last 30 years. He would challenge those, who wanted the Association effectively to check or stop speculation, to come forward and give the Association the necessary authority to do it. He assured the Committee that in whatever commodity and in whichever country forward trading was going on, speculation was bound to exist. As speculation could not be stopped altogether, it had been considered expedient to control it. In more fortunate and advanced countries like England and America where the people themselves had the necessary sense of self discipline, they had themselves organized the necessary control measures, but, in India, Government had to intervene and invest the East India Cotton Association with the necessary authority to control the cotton trade at Bombay. Likewise, if option business could not be stopped by Government by legislation, and if its prevalence threatened genuine

trade, let the East India Cotton Association try to control it. He would remind the Committee that this was not the decision of the East India Cotton Association, but of the Wiles Committee, the decision of which should be none-the-less weighty, despite the dissent of Sir Ness Wadia.

Proceeding, the *Vice-President* drew attention to the only argument which could be advanced against the proposal, *viz.*, that it was at direct variance with the practice of the New York market and discordant with the Liverpool practice. His answer to this was that the East India Cotton Association working as it was in Bombay and under conditions, both political and economical, so vastly different from those of New York and Liverpool, could never rise to the heights similar associations could reach in England or America and, as a matter of fact, the East India Cotton Association had never claimed or pretended to follow New York and Liverpool in every respect. Was it, he asked, seriously suggested that this proposal, found necessary for the peculiar conditions of Bombay and India, should be turned down simply because New York and Liverpool can do without it at present.

He was particularly pleased at the hint contained in one of the memoranda that the East India Cotton Association should aim at becoming an All-India Association. As it was one of the dreams of his early days that the Government of India and the Government of Bombay, between them should organise a cotton association at Bombay in such a manner as to make it an All-India Association, the hint at this juncture was of special interest to him. He assured the Committee that the East India Cotton Association had not till then done anything prejudicial to this higher position if the Government of India now wished to confer it on the Association. In this connection he was also glad to note that the proposal now under consideration had been referred not only to this Committee but also to other local Governments. The East India Cotton Association did not wish to do anything to which anybody had any justifiable objection. It was the duty of those who objected to the present proposals to tell the East India Cotton Association what else it should do. If, by not legalising and controlling option business, there should be any abnormal shocks to the Bombay market at any time, the responsibility would rest not on the East India Cotton Association but on this Committee and the other Local Governments whose advice was now being sought. It was now for this Committee to guard against this danger and give its decision accordingly.

In reply to the remarks of the *Vice-President*, it was urged that almost everyone felt that options on their merits were undesirable. While some held that options should be abolished, others considered that if options could not be stopped altogether, it would be far better to have them legalised and brought under control. The claim that options were an advantage in certain circumstances was opposed to the view that on the whole option dealing definitely upset the market and that the grower could never be benefitted from badly organised trading. This view was suggested by some of the conclusions of the Canadian Commission on Trading in Grain Futures. This Commission, it was said, made one of the most valuable studies which had ever been made of future trading in agricultural commodities, and forcibly and

clearly brought out that, while genuine future trading, hedging, was beneficial to growers, a market controlled by speculators was a very definite danger to them. In view of the good work—beneficial to the grower—done by the East India Cotton Association during the fourteen years of its life, it was urged that it should take no risks and lose all that had hitherto been gained. It was accordingly suggested that the gravity of the situation should be brought to the notice of Government by the East India Cotton Association to see if there was not an alternative to recognising an option contract. Whilst India should not copy New York and Liverpool, in every respect, there was no reason why India should not benefit by the lessons learnt by New York and Liverpool by long and hard experience. The cumulative experience of New York had gone definitely against the recognition of options.

Agreeing with the suggestion to make a representation to Government on this matter, the *Vice-President* said that he, as the representative of the East India Cotton Association, would be glad to assist in fully acquainting Government with all the facts about this matter, and he suggested that pending the result of the new move, the discussion on the subject in this Committee might stand adjourned. He assured the Committee that it was not the intention of the East India Cotton Association to persist in this matter for the sake of merely doing so, but at the same time he would warn the Committee that, if Government were, for any reason whatsoever, unable to solve this problem, the cotton market stood threatened with a likely danger. He therefore hoped that, in the latter contingency, the Committee would lend their whole-hearted support to the proposals made by the East India Cotton Association. In conclusion he appealed to the Committee either to effectively stop this option business by whatever method possible, or to tell him definitely what the East India Cotton Association should do.

The debate was adjourned to the next meeting of the Committee.

SUBJECT 14.—*Universal Standards for Indian cotton—Progress Report.*
Secretary's note.

"The Standards Sub-Committee as reconstituted by the Indian Central Cotton Committee, at its 29th meeting in August 1934, held five meetings during the current cotton year. Out of the following nine cottons for which it had been decided standards should be prepared, Nos. 1,8 have already been dealt with :—

- | | |
|--------------------|--------------|
| 1. Bengals | 6. Mathias |
| 2. Sind | 7. Dholleras |
| 3. Punjab-American | 8. Broach |
| 4. Sind-American | 9. Kumptas. |
| 5. Oomras | |

In accordance with the decision of the Local Sub-Committee the standards have been sent to the Director of Agriculture, Bangalore, who has kindly consented to store them on behalf of the Committee."

The Secretary's note was recorded.

SUBJECT 15.—*Appointment of cotton growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and Reports of members.*

Sardar Rao Bahadur Bhimbhai Ranchodji Naik, Sardar Sampuran Singh and Mr. N. M. Deshmukh were appointed by ballot as the Committee's representatives to the Board of Directors of the East India Cotton Association.

SUBJECT 16.—*Report on the Fumigation of American cotton.*

The Report of the Standing Finance Sub-Committee on fumigation accounts for 1934-35 showing that no rebate was possible was recorded.

SUBJECT 17.—*Summary of Proceedings* of the Local Sub-Committee.*

Mr. Ritchie stated with reference to para. 3 of the proceedings that the Central Provinces Government had included the Nimar and Hoshangabad districts in the protected area under the Cotton Transport Act.

The summary proceedings were recorded.

SUBJECT 18.—*Crop Forecasts—Scheme for the publication of Cotton Forecasts.*

The Committee recorded the secretarial note communicating the decision of the Government of India to revive the publication of the all-India crop forecasts in leaflet form and to withhold the publication of all provincial cotton forecasts, except that of Burma, till the issue of the all-India cotton forecasts.

SUBJECT 19.—*Report† of the Cotton Forecast Improvement Sub-Committee.*

Summary of discussion.

In moving the adoption of the Report of the Cotton Forecast Improvement Sub-Committee, Mr. Burt explained at length the chief functions of this Sub-Committee, as well as the important points raised in its Report. In particular, he drew attention to that portion of the Report dealing with the Sub-Committee's recommendations on the reports of investigations carried out in Provinces and States with a view to ascertaining the quantity of cotton consumed outside factories for such domestic purposes as hand-spinning, making quilts and mattresses, etc., and said that until accurate and reliable estimates of the cotton used for such purposes were available, the checking of the accuracy of cotton forecasts in the light of other available statistics relating to visible supply of cotton would remain defective. He also referred to the Sub-Committee's recommendation that the form of the monthly return submitted by mills under the Indian Cotton Cess Act should be so amended as to show the quantity of loose cotton consumed by them, separately from that of pressed cotton. At present, mills situated in the major cotton-growing provinces were voluntarily furnishing separate returns showing such consumption, but they were incomplete, and without complete figures it was not possible to get reliable estimates for the total quantity of cotton ginned. The proposed amendment though it meant a little more trouble to the mills, would ensure the reliability and completeness of the figures collected. Mr. Chunilal B. Mehta, referring to the Report on the Bombay Cotton Forecast Improvement Scheme, remarked that, in spite of the fact that this report had brought to light glaring defects in the present method of compiling Government forecasts, the Sub-Committee had not made any recommendation

* Appendix IV (page 67).

† Appendix V (page 67).

whatever for their improvement. *Mr. Burt* pointed out that this Report was only an interim Report and the Sub-Committee could not make any recommendations until the completion of the investigations next year. *Mr. C. B. Mehta* did not feel that the Committee was justified in agreeing to any further delay in trying to rectify the defects already brought to light. He thought that, if the Committee was not prepared to make any recommendation at this stage, at least the Bombay Report should be sent to the Government of India for necessary action. *Mr. Coleridge* fully agreeing with *Mr. Mehta* added that the Trade in India did not attach the slightest importance to Government forecasts, and that the Trade in Liverpool considered them as a periodical joke. At the same time he had been struck by the amazing accuracy with which some of the commercial houses forecasted the crop long before it came on the market. Government, he thought, could as well drop the present system of compilation and enlist the co-operation of these firms in future. *Mr. Tinker* agreed with *Mr. Coleridge's* remarks.

Mr. Burt said that, in the short time the Sub-Committee had been working, not only had inaccuracies in Government forecasts been detected but remedial measures had been suggested. The minor mistakes discovered in area figures should not create any false impression about the area figures as a whole. As a matter of fact the accuracy of the Indian area figures for crops, except in permanently settled provinces, had received international recognition. He agreed that for permanently settled areas as in Bengal, the area figures might not be permanently reliable. It was not in the area figures but in the estimates of yield that the greatest difficulty lay. No good would come of trying to train the *Patwari* in a more scientific manner of stating the seasonal factor. The more important source of inaccuracy was to be found in the standard yield per acre which the Sub-Committee found to be too low, and which should be revised. Accordingly in the Punjab a systematic examination of all the records had been undertaken. In Sind, tentative revised figures had been adopted. In the Central Provinces and Mysore also the matter was under consideration. In Bombay, things were more complicated than elsewhere, and hence a special scheme was sanctioned.

He did not agree with the view that Government forecasts might be constructed from trade estimates. This was not feasible as trade estimates did not cover the whole of the country and left big gaps. Further whenever Government had put this question to commercial bodies, Government had invariably been told that the public wanted the information from Government sources and not an average of trade estimates. It was quite possible that Government might seriously consider discontinuing the yield estimates and giving out the area figures only. He would therefore suggest that, before taking any further steps, the Committee might await the results of the remedial measures already adopted which could be seen from the *post-mortem* examination of the 1934-35 crop. He was inclined to agree with *Mr. Mehta* that the Bombay enquiry might be extended to other provinces. As regards the question of spending more money for improving the accuracy of forecasts, he reminded the Committee that this was in the main a provincial subject, and that provincial Governments were not, as a rule, inclined to spend more money on

statistics. The only way to get them to do so was to present a convincing and strong case and even then there was the risk that money needed for agricultural improvement might be diverted to statistics. In the circumstances, this matter should not be dealt with hastily. The report might now be adopted and the several points now raised examined at the next meeting of the Sub-Committee. *Mr. Chunilal B. Mehta* stressed the necessity of conducting an enquiry into the fundamental soundness of the whole system now adopted. His complaint was not against any Government Department but against a thoroughly unreliable and unsound system. He wanted to know if the method itself was correct. If it was not, it was a sheer waste of time and labour trying to improve its application. It was better for the Committee to recommend to Government to discontinue the publication of forecasts if they could not be improved.

The President said that the Vice-President was also of opinion that no harm would be done by sending the discussion to the Government of India. He, therefore, put to vote the original motion, viz.,

RESOLUTION.—"That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

This was carried unanimously.

He then proposed :—

RESOLUTION.—"That a copy of this discussion together with a copy of the Progress Report of the Bombay Cotton Forecast Improvement Scheme be forwarded to the Government of India for information."

This was also carried.

SUBJECT 20.—*Report* of the Special Sub-Committee on Wider Markets for Indian Cotton.*

Mr. Burt, in introducing the Report of the Sub-Committee for adoption, said there was little in it which required elucidation. After the discussion that took place on the Japanese Trade Agreement, the Committee felt that this Sub-Committee should continue to function. The Sub-Committee had therefore been meeting every time the full Committee met and discussing the world outlets for Indian cotton.

The Report of the Special Sub-Committee was adopted.

SUBJECT 21.—*Technological Research—Progress Report† of the Director, Technological Laboratory.*

The Report of the Director, Technological Laboratory, was approved.

* Appendix VI (page 68).

† Appendix VII (page 70).

SUBJECT 22.—*Technological Research—Report* of the Technological Research Sub-Committee.*

The following resolution was carried unanimously :—

RESOLUTION.—“ That the Report of the Technological Research Sub-Committee be adopted and that the purchase of a Shirley Analyser be approved.”

SUBJECT 23.—*Agricultural Research—General Progress Report.*

The Secretary's general progress report† was recorded.

SUBJECT 24.—*Progress Report on Broach Cotton Breeding Scheme.*

This scheme was sanctioned in December 1931 for a period of five years and work started in April 1932. Its original object was to obtain suitable types of cotton with wilt-resistant, heavy-yielding, high ginning percentage—40 per cent and above—and superior spinning qualities to replace the local mixture, a large proportion of which was *Goghari*, a short staple variety with a ginning outturn up to 40 per cent. In view, however, of the recent change in the Committee's policy to replace, wherever possible, short staple cotton with medium and long staple varieties, efforts are now concentrated on wilt-resistance and heavy yield and fibre-length. Ginning percentage is, for the present, paid less attention to as it is likely to take more time to combine this character with the length of staple.

The progress report for 1934-35 showed that during the year under report four crosses were studied and promising strains were retained for further tests.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 25.—*Progress Report on Jalgaon Cotton Breeding Scheme.*

The object of this scheme, which was sanctioned in December 1931 for a period of 5 years, is to obtain by selection or hybridisation a wilt-resistant, heavy yielding, high ginning and good spinning cotton to replace *Banilla*, a cross between *Bani* and *Comilla*, the spinning quality of which had deteriorated.

The progress report for 1934-35 indicated that the three new wilt-resistant strains, *N.V. 57-7*, *N.V. 56-3* and *N.V. 56-17*, proved again better yielders than *Banilla* and *N.R. 6*, and at the same time did not suffer from bad effects owing to continuous rains after sowing.

The Committee suggested that when the results of replicated plots and other experiments were reported the method of the lay-out of plots should also be stated and the critical difference and the level of significance indicated, e.g., by giving the value of P or the significant difference between treatments, varieties, etc.

The programme of work for 1935-36 was approved.

SUBJECT 26.—*Progress Report on the Scheme for Survey of Goghari cotton in Gujerat.*

This scheme was sanctioned in August 1934 for five years. It is a necessary corollary to the accepted policy of the Committee to encourage the cultivation of 1027 *A.L.F.* only, in the tract lying south of the Nerbudda and is intended for carrying out field survey of *Goghari*, a short stapled variety, with a view to trace it to ginneries and induce the latter to discourage its cultivation by paying low prices for it.

* Appendix VIII (page 78).

† Appendix IX (page 80).

As stated in the progress report, 53 villages in Jalalpur, 17 villages in Bardoli and 14 villages in Ankleshwar talukas were surveyed and in 8 of these villages 29 acres of pure *Goghari* and 1,864 acres of mixed *Goghari* were observed. A list of cultivators growing this cotton was supplied to gin-owners but the response received from the latter was not satisfactory.

The Committee considered that frost damage made this survey more difficult than it would otherwise have been. It suggested, however, that in estimating mixtures, five per cent. which is easily detectable in the field should be taken as the criterion in future.

The Committee further recommended that reports should give full details for each village surveyed and not only for the bad ones. It was also important to show in the report the number of *cultivators* in each village whose cotton was found to be mixed.

The Committee noted with regret that gin-owners had not taken advantage of the information supplied to them. It was suggested that a copy of the report, with the further details of each village surveyed so far as available, should be sent to the Divisional Cotton Committee who should be asked to try to secure the co-operation of the gin-owners. It also suggested that copies of the report should be sent to the East India Cotton Association for supply to those members of the trade who were interested in Surat cottons in the hope that some of them might be willing to use their influence with gin-owners. A further recommendation made was that in operating the Surat Cotton Seed Scheme, special attention should be given to clearing up the pockets of mixed cotton by displacing the mixed seed with pure seed.

The programme of work for 1935-36 was approved.

SUBJECT 27.—*Progress Report on the Scheme for Defibration of cotton seed in the Bombay Presidency.*

This scheme was sanctioned in August 1934 for three years. The defibrating machine was purchased and installed as already decided by the Committee at the ginnery belonging to Messrs. Narandas Rajaram & Co., at Palej, Broach District. It will commence work in January 1936.

The progress report for 1934-35 and the programme of work for 1935-36 were considered and approved by the Committee and it was decided that arrangements should be made for the maintenance of cost records when the scheme was actually in operation.

SUBJECT 28.—*Progress Report on the Plant Puller Propaganda Scheme in Surat and Broach Districts.*

This scheme is the corollary of the Surat Boll-worm Scheme which came to a successful termination in April 1934. It was sanctioned in the first instance for one season of four months from the beginning of March to the end of June 1934, and was extended in August 1934 for two more seasons.

From the progress report for 1934-35, the Committee observed that vigorous propaganda was carried out as in previous years. About 80 per cent. of the cotton area in Broach, 90 per cent. in Amod, 75 per cent. in Wagra, 40 per cent. in Jambusar and 22 per cent. in the south of Nerbudda were cleared of cotton stalks in the year under report.

In view, however, of the fact that in certain talukas considerable areas were left untouched, the Committee was of opinion that more intensive work should be carried out particularly in the main areas to ensure that no centres of infection were left. The Committee considered that its funds might be utilised for cleaning up areas that might otherwise be left untouched.

The necessity of arrangements being made to ensure that a sufficient number of plant pullers of the right type was made available over the whole area was emphasized in view of the statement made in the report that the Jambusar area suffered from a scarcity of pullers of a specially strong type.

The chief hindrance to the uprooting of plants was that new leases were settled so late in the season that the incoming tenants found it difficult to comply with the requirements. As the scheme was due to terminate in June 1936, the Committee resolved that before that date, some sort of legislative sanction should be given by the Government of Bombay to the Agriculture or Revenue Department to enforce the uprooting of cotton stalks.

The Committee also considered that the experiment had been a success and that further propaganda at the expense of the Committee would not be necessary after the termination of the scheme.

SUBJECT 29.—Progress Report on Sind Physiological Research Scheme.

This scheme which was originally sanctioned in 1925 for five years commenced work in July 1927, and was extended for a further period of five years from April 1932. Its main object is to ascertain the irrigation and manurial requirements, optimum sowing time of cotton, etc., in the Barrage zones of Sind.

The Committee in considering the progress report for 1934-35 and the programme of work for 1935-36 noted that the work had followed the lines laid down and that the progress was satisfactory.

One of the chief items in the programme of work had been the finding out of the optimum time for the sowing of cotton in the Barrage area. This experiment had been concluded and the results were being published.

The work on the water requirements of the cotton crop had come to a stage when its practical application could now be tested on a field scale on Government farms.

The Committee considered that the results from the manurial experiments were sufficiently far advanced to enable the economics of the two best treatments to be studied on a field scale on the Government farms.

The Committee noted that a full report was being submitted for its opinion regarding future work to be undertaken on the investigation into red leaf and recommended that, on receipt, this report should be circulated in good time to members so that other workers might be invited, if considered necessary, to discuss the matter in the Agricultural Research Sub-Committee.

SUBJECT 30.—Progress Report on Madras Herbaceum Research Scheme.

This scheme was first sanctioned in February 1923 for a period of five years. It was extended in December 1928 for two years and again in July 1930 for three years and nine months. It was given in May 1934, a further extension of one year

and on the expiry of this period it was once again extended in February 1935 for three years on the recommendations of a Special Sub-Committee appointed by the Committee to inspect the scheme and report on it.

The original object of the scheme was to obtain by selection a suitable type with the combined qualities of drought resistance of *Uppam* (herbaceum) and spinning and yielding capacity of *Karunganni*, to replace *Uppam* in the 'Salems' and 'Tinnevellies' areas. This object having failed, improvement by hybridisation was started in 1930.

The progress report for 1934-35 showed that two new strains, viz., 4,714 and 4,803, which had lint lengths of 26 mm. and 28 mm. respectively, had yielded well in a year of short rainfall and seemed to possess drought resistance comparable with herbaceum cotton. Work had been carried out on the lines recommended by the Special Sub-Committee in the report which was adopted in February 1935.

The Committee approved the progress report and the programme of work for 1935-36.

SUBJECT 31.—*Progress Report on Madras Fodder Cholam Scheme.*

This scheme was sanctioned in July 1930 for a period of three years for the investigation of the harmful effects of fodder cholam (*Andropogon sorghum*) on the succeeding cotton crop. The scheme commenced work in January 1931, and was extended for two years and five months.

The progress report for 1934-35 indicated that the investigation was now yielding interesting results.

The Committee approved the progress report and decided that in the next report a complete analysis of the soil should be included.

The programme of work for 1935-36 was approved.

SUBJECT 32.—*Progress Report on Madras Pempheress and Physiological Research Scheme.*

The Madras Pempheress and Physiological Scheme was sanctioned in 1925 for a period of five years but due to the difficulty of securing the services of a competent Plant Physiologist it had to be kept in abeyance till 1930 when as proposed by the Director of Agriculture, Madras, the Committee agreed to train two officers selected from the Madras Agricultural Department with a view to their eventually occupying the posts of Physiological Botanist and Bio-Chemist under the scheme and to start in the meanwhile preliminary investigations under the guidance of the Cotton Specialist, Coimbatore. The scheme started in September 1931, and was extended in August 1933, for five years from September 1933. On the return of the two officers after training, the scheme was reviewed in February 1935, when it was decided to restrict its scope to the reduction of the shedding of buds and bolls in *Karunganni* caused by untimely rains, by breeding and physiological methods and devising control measures against the cotton stem borer.

The progress report which was approved showed that work had been conducted on the lines approved by the Special Sub-Committee which reported in February 1935. Though it was observed last year that the actual loss due to *Pempheress* was only 4 per cent., the results obtained from the repetition of the same experiment in 1934-35 indicated that the loss sustained in yield was as high as 50 per cent.—20 per cent. due to the death of plants and the remaining 30 per cent. to poor yield on account of the attack.

The Committee noted with interest that Peruvian cotton gums up so rapidly after *Pempheress* attack that the insects die out.

The programme of work for 1935-36 was approved with certain modifications.

SUBJECT 33.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

This scheme was sanctioned in February 1933 for five years with the object of providing a suitable annual type which can replace perennial *Nadam* in the red soil tracts of Salem and Coimbatore districts, where neither *Karunganni* nor *Uppam* grows satisfactorily due to the poverty of soil and precarious rainfall. *Nadam*, being a perennial variety, provides a convenient breeding ground for stem weevil and pink boll-worm during the close season prescribed by the Madras Pest Act, and if an annual variety suitable for these tracts were secured, the Pest Act could be extended to the Salem and Coimbatore districts without exception and thus damage to cotton avoided.

The report indicated the possibility of an annual type being secured which could replace *Nadam*.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 34.—*Progress Report on the Punjab Botanical Scheme.*

The Punjab Botanical Scheme was first sanctioned in December 1924 for five years, was extended in 1929 for another period of five years and again in February 1935 for a further period of five years. It has for its object the selection of a suitable strain to replace 4F cotton in the Canal Colonies where a very large area is at present grown under it.

The report showed that as a result of further tests in 1934-35, 43F had been finally selected and it was expected to cover about 6,000 acres in the 1935-36 season. This type is an early and Jassid-resistant cotton with superior fibre qualities. 38F, though susceptible to Jassids, may prove useful in the drier parts of the Province and is gaining favour with the British Cotton Growing Association at Khanewal.

The Committee decided that to the present watering experiments might be added one more type wherein 28 inches of irrigation including rainfall should be given in such a way that during the flowering season the plants would receive more frequent waterings.

The programme of work for 1935-36 was approved.

SUBJECT 35.—*Progress Report on the Punjab Pink and Spotted Boll-worm Scheme.*

This scheme was sanctioned for a period of five years for the investigation of the causes responsible for the difference in the incidence of the pink boll-worm between South-east Punjab where its attack is severe and the Canal Colonies where it is negligible. It was extended in December 1930 for two years and again in February 1933 for one year. It ended on the 31st March 1934, and was superseded by the present pink and spotted boll-worm scheme having for its object the continuation of work on the pink boll-worm and an enquiry into certain aspects of the spotted boll-worm. The latter scheme was sanctioned in August 1933 for three years.

The report indicated that the attack of the spotted boll-worm was more severe in the Canal Colonies and Western Punjab than in the rest of the Punjab, where the pink boll-worm predominates. In the Punjab there is a close period of cotton of over four months and for about six weeks of this period the only source of food available for the insect is the sprouts of cotton stumps and by removing the cotton stalks and stubbles in time, the pest could effectively be controlled. The pest appears on the cotton crop in the middle of June and continues damaging first the tender shoots and then flower buds and green bolls.

Its total damage, as indicated by the night caging experiments, amounts to about 47 per cent. on 4F and 65 per cent. on *desi* cotton.

The Committee considered that practical control measures on the lines conducted in Surat area should be energetically followed up from January 1936 and that the uprooting of cotton stalks, after the completion of the picking season, should be secured over an area of not less than 150 square miles.

Data collected on the study of parasites show that a temperature in the neighbourhood of 82°F. is optimum for the increase of *Microbracon lefroyi*, while above 95°F. and below about 55°F. no development takes place. The duration of the total life cycle varies from 7 to 51 days. This parasite probably over-winters in the adult stage as all other stages of the parasite are readily killed by frost. It has been found so far that this parasite attacks both *spotted and pink boll-worms*.

Certain amendments were made in the programme of work for 1935-36.

SUBJECT 36.—*Progress Report on the Punjab Cotton White Fly Scheme.*

This scheme was sanctioned in December 1930 for three years and work commenced in April 1931. It was extended in January 1934 for a period of two years.

Severe infestation greatly affected the vegetative growth of the crop during the year 1934-35. The yield, ginning percentage and even seed weight were affected according to the period and duration of infestation. The application of *Iron sulphate and Ammonium sulphate* to the soil showed considerable effect on the infestation and yield.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 37.—*Progress Report on the Punjab Spraying Trials Scheme.*

The Punjab Spraying Trials Scheme was sanctioned in August 1932 for one year and was extended in January 1934 for one more year.

The Agricultural Research Sub-Committee at its last meeting considered, along with the interim report for 1934-35, proposals put up by the Director of Agriculture, Punjab, for the extension of the scheme for two more years and sanctioned them for one year subject to the condition that the work of the scheme should be postponed till a year of really bad white fly attack and that as far as possible it should be conducted in replicated plots.

The object of the scheme is to ascertain:—

- (1) The most suitable and economic insecticide and the proper time for spraying and dusting.
- (2) The form in which the insecticide should be applied viz., dust or spray.
- (3) The various methods and appliances for spraying and dusting the field crops.

The report contained an account of the effect of spraying on the yield of cotton at Khanewal, Okara and Sargodha in the Punjab where the White Fly Spraying Trials were conducted during 1934-35. A total area of 2,640 acres was sprayed in the three centres, but the operations could not be started till about the end of July instead of in June as originally contemplated. The results were, however, quite

satisfactory and the spraying seemed to be profitable provided it was done in proper time. The number of sprayings was not so very important as the time of spraying.

The progress report was approved.

SUBJECT 38.—*Progress Report on the Punjab Root Rot Scheme.*

The Punjab *Root Rot* Scheme was sanctioned in August 1932 for a period of three years. It commenced work in September 1932, and was extended in February 1935 for another period of three years.

The object of the scheme is the study of *Root Rot* in the Punjab where, particularly in the Canal-irrigated tracts, the damage done by this disease is estimated at about Rs. 16 lakhs annually.

From the progress report for 1934-35, it was apparent that both *Desi* and American varieties of cotton were equally susceptible to *Root Rot* which appeared to be causing much damage by rapidly spreading in all the irrigated areas of the Punjab. *Root Rot* is caused by two species of *Rhizoctonia*. Contrary to indications obtained last year the incidence of the disease under irrigated conditions did not appear to have any relation to the number of irrigations and the disease was carried over from one year to another on live cotton roots in the soil.

The Committee approved the programme of work for 1935-36 with certain modifications.

SUBJECT 39.—*Progress Report on the Punjab Defibrating and Delinting Scheme.*

This scheme was sanctioned in August 1933 for a period of one year for the purchase and installation of the required machinery.

The delinting machine and the defibrating machines were installed in February 1934 and April 1934, respectively, at the British Cotton Growing Association cotton ginning factory at Khanewal, but their testing had to be delayed till November 1934.

The object of the scheme is to convert the seed into a form which would be acceptable to the *Zamindar* as a food for his cattle.

The progress report showed that due to certain defects the defibrating machine could not be tested and the results obtained from the small scale tests of the delinting machine were not also of much value.

The Committee noted that the defibrator required alteration to deal with Punjab-American seed and sanctioned the continuance of the scheme for one year, the cost being borne out of the balance of the amount already budgetted for.

SUBJECT 40.—*Programme of work of the Punjab Physiological Scheme.*

The Punjab Physiological (Partial failure of American cotton) Scheme was sanctioned in August 1933 for a period of five years but due to the difficulty of securing the services of a competent plant physiologist it could not be started till about the middle of March 1935.

The Committee approved the programme of work for 1935-36, which was tentative and liable to modification as results were obtained.

SUBJECT 41.—*Progress Report on the Central Provinces Botanical Scheme.*

This scheme was sanctioned in February 1923, and it started work in October 1923. It was extended in 1928 for five years from April 1929, and again in August 1933 for a further period of five years.

The object of the scheme is to secure wilt-resistant, heavy yielding and fine spinning types of cotton suitable for the Central Provinces and Berar. At the time the scheme was sanctioned the Department of Agriculture had already done some work on cotton selections and it was, therefore, possible to obtain earlier than otherwise a new strain, *Verum* 262, which looked very satisfactory from every point of view but unfortunately was soon found to be susceptible to adverse climatic conditions. Attention is accordingly now being paid to the isolation of new strains free from this defect, and, if possible, with better yielding and spinning qualities.

During the year 1934-35 three new strains, *V. 434*, *Late Verum* and *V. 438*, were very successful wherever they were tried. *V. 434* is hardy, prolific and superior in lint besides being drought and wilt-resistant and proved a success under a wide range of conditions. It is expected to extend to about 20,000 acres in the 1935-36 season. *Late Verum* spins up to 36s and is well suited to localities where the rainfall is heavy and the monsoon extends late in the season. It is expected to cover about 100,000 acres in the current season. *V. 438* was extensively tested for its suitability for soils of lighter descriptions and the results were quite encouraging. Steps have been taken to extend this cotton on areas for which it has been developed. Other promising strains such as *Ak. 766*, *Ak. 773*, *Bani 306*, and *E.B. 31* are also under trial.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 42.—*Progress Report on the Central Provinces and Berar Entomological Scheme.*

The Central Provinces and Berar Entomological Scheme which has for its object the carrying on of a preliminary survey of the cotton boll-worm pest in the Central Provinces and Berar was sanctioned in January 1934 for a period of two years.

The progress report for 1934-35 showed that the incidence of the boll-worm pests at Akola was greater than at Nagpur probably due to the more suitable climate and the higher concentration of cotton area at Akola. The spotted boll-worm commences its attack first on tender shoots when the crop is only a few weeks old and from September onwards causes much damage to flower buds and green bolls. The pink boll-worm, on the other hand, appears only in September and very little damage is done by it before the crop is harvested. The combined effect of the two boll-worms is, however, severe as the total reduction in yield due to the two boll-worms amounts to 51 per cent. In addition, 20 per cent. of the harvested crop consists of half-eaten seed and stained lint and 3 per cent. completely useless cotton.

The Committee noted that the examination of bolls *in situ* for pink boll-worm was not satisfactory and the methods followed elsewhere of completely stripping a given number of random-selected plants will give a better idea of the incidence of attack. More reliable data would have been secured of pink boll-worm attack if this method had been adopted. The Committee was glad to see that the latter method was being adopted in the present season.

In order to determine whether long cycle larvæ of pink boll-worm exist under the conditions obtaining in Berar, the emergence of moths should be observed in stored seed as well as in stored *kapas*. Observation should be carried out until the monsoon was well established and not only until the end of hot weather.

SUBJECT 43.—*Final Report on the United Provinces Entomological Research Scheme.*

This scheme commenced in 1923 and was closed down in July 1931. It was extended for one year in July 1931, and again for another year in August 1932, for the purpose of enabling the report to be written up. The scheme was further extended in August 1933, for a period of nine months and 12 days to enable Mr. Nangpal, the Assistant Entomologist, to avail himself of the leave due to him.

The object of the scheme was to determine the amount of damage done by the Pink Boll-worm (*Platyedra gossypiella*), the worst pest of cotton in India, and to discover control measures.

The report on the scheme is under preparation.

SUBJECT 44.—*Progress Report on the Scheme for Survey of cotton in Rohilkhand and Bundelkhand, United Provinces.*

This scheme was sanctioned in February 1933 for a period of three years and commenced work in July 1933. It has for its object the detailed survey of the Bengal types of cotton grown in the different cotton tracts of the United Provinces to facilitate the selection of suitable types for different localities of the province.

The progress report for 1934-35 indicated that the Rohilkhand cotton crop was surveyed in 1933 when 5,032 samples of cotton were collected. Out of these the best 396 were picked out for detailed examination in 1934. The best of these and others selected from unsold plants will be retained for observation next year.

In Bundelkhand, 1,101 villages were visited in 1934 and 6,228 samples of cotton were collected. Better types of cotton were seen growing in Mohoba Tehsil of Hamirpur district, Lauri Tehsil of Jhansi district and Tehrauli Tehsil of Orchha State.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 45.—*Annual Report of the Institute of Plant Industry, Indore.*

The grant for the Institute of Plant Industry, Indore, was sanctioned by the Committee in January 1924 for a period of five years and work began in October 1924. In November 1929, an extension of the grant for a period of 5 years from the 1st April 1930 was sanctioned and in August 1934 the grant was extended for a further period of three years.

The primary object of the Committee in financing the Institute is to provide a centre for cotton research for the black soils of the Malwa plateau and the programme of work includes the general botany, physiology and genetics of Indian cottons besides a number of agricultural investigations connected with cotton cultivation.

The Annual Report for the year ending June 30th, 1935, showed that good work had been done on lines approved by the Committee. The report with certain modifications was approved.

SUBJECT 46.—*Progress Report on Hyderabad Botanical Scheme.*

This scheme was sanctioned in July 1928, for five years and it commenced work in May 1929. It was extended in August 1933, for a further period of five years with effect from the 1st April 1934.

Its object is the study of cottons which make up *Gaorani* or *Bani* cotton and the selection of a prolific, high ginning and uniform type with good spinning qualities.

The progress report for 1934-35 showed that in the varietal tests G4, G6, G55 and P25 were decidedly superior to the local *Gaorani* in every respect and that among the new strains themselves G4 appeared to be the most promising though slightly inferior to the rest in ginning.

percentage and to G6 in spinning value; both of these have given very encouraging results in district trials. It was hoped to distribute their seed in the 1935-36 season for about 1,000 and 600 acres respectively.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 47.—Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme.

This scheme was sanctioned in February 1933 for a period of three years and it commenced in June 1933.

The object of the scheme is to ascertain:—

- (i) the actual amount of damage done by the pink and spotted boll-worms to cotton in the Godavari Valley,
- (ii) the progress of their attack on the growing crop,
- (iii) the mode of their carry-over from season to season, and
- (iv) the effect of the likely control measures.

The progress report for 1934-35 which was a summary of the work done during the past three years indicated that the spotted boll-worm was carried over from season to season in the cotton crop and other alternate host plants. From the results obtained it appeared that the pink boll-worm was not carried over in the seed and that infection from the soil was one of the main sources of the carry-over, although stray cotton plants had been found in the hot weather months harbouring the pest. The current season's results will confirm how the pest is carried over and the next item of work will be to find out how this can be overcome.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 48.—Progress Report on Hyderabad Cotton Survey Scheme.

The Hyderabad Cotton Survey Scheme was sanctioned in December 1930 for four years and was extended in August 1932 for a further period of one year. Its object is a detailed survey of the cottons grown in the Hyderabad State as an essential preliminary for securing superior strains of cotton and the extension and distribution of their seed.

In the year 1934-35, 207 samples of seed—119 of *kharif* and 88 of *rabi*—collected from the districts were grown for analysis.

An analysis of the *kharif* samples showed that in Parbhani, Bir and Raichur districts the bulk of the *kharif* crop, up to 70 per cent., was made up of *G. neglectum* while *G. indicum* was present only up to 20-30 per cent. in the first two districts and 15 per cent. in the third. In all the remaining districts the proportion of *G. indicum* was as high as from 50 to over 95 per cent. against 1 to 33 per cent. of *G. neglectum*.

Rabi samples, on the other hand, indicated that *G. herbaceum* was almost the only type grown as *rabi* crop in Karimnagar and the northern part of the Warangal districts. Similarly *G. obtusifolium* in Nalgonda and the southern part of the Warangal districts and *G. indicum* in the Asifabad district were more or less the only types grown there as *rabi* crop.

The Committee appreciated the fact that the scheme embodied selection as well as survey, and was of the opinion that the work done had been and will be of great use in the selection and development of superior types for the different localities.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 49.—*Progress Report on Bikaner Gang Canal Scheme.*

This scheme was sanctioned in July 1930 for five years and it started work in January 1931. The sanctioned period of five years will expire in December 1935.

The object of the scheme is to obtain by selection and hybridisation superior types of Indian and American cottons capable of spinning up to 25s counts.

The resumé of work done during the four years 1931-35 on this scheme showed that under the present agricultural conditions Cawnpore 520 (*Desi* selection) was best suited to the Gang Canal area and a beginning had been made to multiply this seed for general distribution. American varieties seemed to be unsuited.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 50.—*Progress Report on Baroda Root Rot Scheme.*

This scheme was sanctioned in July 1931 for two years subject to review at the end of this period and work commenced in February 1932. The scheme was extended in August 1932 for three years. The purpose of the scheme is the study of *Root Rot* and the breeding of suitable strains of cotton resistant to this disease in Baroda State.

The progress report for 1934-35 indicated that the principal *fungus* at Baroda was quite different from that causing *root rot* in the Punjab.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 51.—*Progress Report on the scheme for survey of Goghari cotton in Baroda State.*

The Baroda Goghari Survey Scheme was sanctioned in August 1934 for a period of five years its object being the same as that of the Gujerat Goghari Survey Scheme.

During the year, a preliminary field survey revealed that there was very little *Goghari* mixture in Palsana, Mahuwa and the Gandevi talukas, but in the Navsari zone 10 per cent. of cotton was *Goghari*.

The same suggestions made for Gujerat survey apply also to the Baroda State.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 52.—*Progress Report on Burma Cotton Improvement Scheme.*

This scheme which was sanctioned in December 1930 for three years was extended in August 1933 for a further period of three years, with the object of bringing into general agricultural practice the improved methods of cotton cultivation by means of demonstration holdings in suitable centres.

During 1934-35 the work continued on the same lines as in previous years.

The Committee recommended that the number of holdings should be reduced as the demonstrators appeared to find difficulty in carrying out the work with the present number.

The progress report and the programme of work for 1935-36 were approved.

SUBJECT 53.—*Progress Report on Bengal Comilla Cotton Scheme.*

The Bengal Comilla Cotton Breeding Scheme was sanctioned in February 1933 for five years, but it was put into operation only in December 1934. The scheme has for its object the improvement of *Comilla* cotton in the hill tracts of Chittagong.

The report for 1934-35, which covered only a period of four months from the beginning of December 1934 to end of March 1935, showed no great progress.

The Committee approved the programme of work for 1935-36 with certain modifications.

SUBJECTS 54 TO 64.—*Seed Distribution and Extension Schemes.*

The Committee then proceeded to consider the Agricultural Research Sub-Committee's Report on the progress made during the year 1934-35 by eleven seed distribution and extension schemes financed from cess funds. In two of these, the extension of *Jayawant* cotton round about Hubli and Athani, and in another the extension of *Gadag-1* cotton round about Gadag—all in the Southern Division of the Bombay Presidency—had been aimed at. There had also been two other schemes working side by side in the British territories and the Navsari district of the Baroda State for the extension of 1027 *A.L.F.* cotton in the tract lying to the south of the river Nerbudda. In the Presidency proper, two more schemes were also in progress, both for the extension of *Banilla* cotton, one in Khandesh tract and the other in the Deccan Canals area. The scheme for Sind was a more comprehensive one. Besides the multiplication and distribution of seed of varieties found suitable for different areas, the scheme included the yield trials of different varieties as well as the demonstration of the possibilities of cotton growing under Barrage conditions in the present non-cotton growing areas. In the Central Provinces scheme, not only the distribution of seed of new and improved varieties of cotton such as *Verum* 262, *V. 434*, etc., but also the marketing of the produce formed part of the activities. The two other schemes financed by the Committee were for the extension of *Jayawant* and *Gadag-1* cottons in the Raichur Protected Area of the Hyderabad State, and for the expansion of the area under *Cambodia* (Co. 2), cotton in the Tiruppur area of the Madras Presidency.

The Committee generally approved the Report of the Agricultural Research Sub-Committee on these schemes and commented only on certain aspects of a few of them.

Summary of discussion.

Hubli Scheme.

In reply to *Mr. Tinker* who enquired why the scheme had not fulfilled its obligation to cover an area of 2 lakh acres, *Mr. Patel* stated that an area of 2 lakh acres was too large to be managed by one agency from one centre.

On the score that the Hubli Society had to incur a total loss of about Rs. 17,000 in its seed transactions during the first five years, *Rao Bahadur C. S. Shirahatti* asked the Committee to waive the loan of Rs. 6,300 made by the Committee to the Society. To *Rao Bahadur M. G. Deshpande* who asked for information regarding members' disloyalty mentioned in the report, *Rao Bahadur Shirahatti* replied

that all but 5 to 10 per cent. of the members brought all their cotton to the Society, and *Rao Bahadur Salimath* said that, in his opinion, 35 to 40 per cent. of the members were disloyal, and that was one of the reasons why the Society failed to get the required quantity of seed from the reserved area. *Rao Bahadur Shirahatti* pointed out that the shortage of seed was also due to the failure of the crop.

Sind Scheme.

It was pointed out during discussion that *Ashmouni*, *Boss III* and *Sea-Island* produced in Sind were much inferior in quality to the same cottons produced in their original homes. The premia paid for these cottons by the trade in the previous year were far more than their real worth and were meant only for encouraging the Agricultural Department. In these circumstances, and from the general experience of other parts of the world where these cottons had been tried, it was suggested that any expansion at present of the area under these varieties was undesirable, and that the Agricultural Department in Sind should not give out these cottons to *zamindars* for cultivation, until the Department was quite definite that these varieties, on their own merits, would be successful. In answer to this criticism *Mr. Thadani* assured the Committee that in the proposed compact block of 3 lakh acres the Department would concentrate on Sind-American 289-*F* cotton of staple 1" to 1-1/16". He, however, pointed out that the Agricultural Department could not dissuade a *zamindar* from growing Egyptians, if he found it more paying.

In answer to an enquiry regarding the origin, and comparative merits of some of the cottons now grown in Sind, it was elicited that the *Sea-Island* cotton now grown was a strain developed from the original imported *Sea-Island*. Its staple was, however, only 1 1/4" to 1 1/2" and it spun up to 40's warp counts. The average yield was 10-11 maunds per acre, and the highest acre-yield obtained was 20 maunds of *kapas*. It was sown early in March on good soil, and watered every 15 days up to the 15th October, and the crop was harvested before frost set in in January. As regards the *N.T.s* there was no doubt they had originally come from the Punjab. One of these was a strain rejected by Mr. Trought on account of its susceptibility to jassid attack. These *N.T.s* had got mixed up in Sind. Though the Agricultural Department had not countenanced their cultivation in Sind, the mixed *N.T.* had found favour with the trade on account of its better ginning percentage. Many growers who had tried this mixture now repented of their action. There was, however, no doubt that pure and genuine *N.T.*, now being introduced in the Punjab, would, if grown in Sind, fetch a better price if marketed pure. There were also *K.T.s* which were pure line selections from Punjab-American made by Mr. Thomas at the Khanewal Farm. Unlike 289-*F* which was leafy and greyish in colour these *K.T.s* were cleaner and white, though from the agricultural point of view it appeared they were susceptible to jassid attack and the so-called "red-leaf" blight. In general, all these new introductions made by the *zamindars* and the trade were in staple shorter than 289-*F* but better than it in ginning percentage and colour. *Sardar Sampuran Singh* therefore thought that attempts should be made to evolve a type for Sind better than 289-*F* in all respects.

Central Provinces Scheme.

Trade members criticised this scheme on the ground that *Verum* was deteriorating in quality and that its area had lately fallen. Further it was the sad experience of one of them that *Verum* once found good was now bad and mixed. He feared that if the cottons for the extension of which the Committee spent money got mixed and lost their reputation, the money spent by the Committee was a sheer waste.

The representatives of the Central Provinces, Agricultural Department, pointed out that tests on pure *Verum* 262 carried out at the Technological Research Laboratory during the previous years showed that there had been no deterioration whatever in its quality, though, of course, there had been seasonal variations. The deterioration noticed in the quality of cotton now marketed as *Verum* was entirely due to mixing, which had shaken the confidence of old customers to such an extent as to cause them to reduce their offers by as much as Rs. 35 per *khandy*. Pure *Verum* 262 with the same old qualities for which it had been reputed was still available from the pools organized by the Agricultural Department; 5,700 bales of pure *Verum* were dealt with by these pools in the previous year, and it was expected that next year about 20,000 bales of pure *Verum* would be available. It must be confessed that for every bale of pure *Verum* produced there would be two to three bales of mixed *Verum*. This was inevitable on account of the natural spread of the seed, and the Agricultural Department could not prevent this spread, as it paid the growers to grow even mixed *Verum*. It was true that there had been a decrease in the area put to *Verum* 262 but this did not matter much as the Department was replacing it by more hardy *Verum* types in tracts unsuited to *Verum* 262.

Mr. Burt pointed out that when the proposed legislation for the licensing of gins and presses was introduced in the Central Provinces, *Verum* would no longer be sold mixed.

SUBJECT 65.—*Proposed new Seed Distribution and Extension Schemes—
Scheme for introduction and extension of B.D. 8 cotton in
Broach District.*

The proposal before the Committee was that a grant of Rs. 10,460 spread over three years should be made to the Bombay Agricultural Department for maintaining in concentrated areas in the Broach tract a total reserved area of 5,000 acres in the fourth stage of multiplication of the pure seed of *B.D. 8* cotton. It was claimed by the Department that this cotton, which had a staple length of 0.89 inch and was suitable for spinning up to 37's standard warp counts as compared with the 0.80 inch staple, and a spinning capacity of 16's warp counts of the local cotton, which is chiefly *Goghari*. On account of its high resistance to wilt, *B.D. 8* gave a better yield than *Goghari* in all the wilt infected areas of the tract. *B.D. 8* had, however, one drawback and that was its low ginning percentage, viz., 32.6 as against the 39.1 of *Goghari*. All things taken into account it was estimated that *B.D. 8* gave the cultivator a net profit of Rs. 5-8-0 more per acre than *Goghari*.

The Report of the Agricultural Research Sub-Committee on this scheme was adopted by the Committee.

SUBJECT 66.—*Proposed new Seed Distribution and Extension Schemes—Scheme for extension of cultivation of long staple cotton in Bengal.*

The scheme submitted by the Director of Agriculture, Bengal, was a five-year one entailing a total expenditure of about Rs. 21,700 spread over five years. The Director of Agriculture proposed to appoint an officer with headquarters at Midnapore chiefly for demonstration work.

The Report of the Agricultural Research Sub-Committee on this scheme was adopted.

SUBJECT 67.—*Report of the Agricultural Research Sub-Committee.*

The Report* of the Agricultural Research Sub-Committee as amended by the Committee was adopted.

SUBJECT 68.—*Report † of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet as at March 31st, 1935.*
- (b) *Final Accounts, 1934-35.*
- (c) *Revised Estimates, 1935-36.*
- (d) *Budget for 1936-37 (Government servants).*

The following Resolution was passed :—

RESOLUTION.—“ That the Report of the Standing Finance Sub-Committee be adopted.”

“ That the Balance Sheet as at 31st March 1935 be approved.”

“ That the Final Accounts for 1934-35 be approved.”

“ That the Revised Estimates for 1935-36 be approved.”

“ That the Budget for 1936-37 (Government servants) be approved.”

“ That Sardar Rao Bahadur Bhimbhai Ranchodji Naik, Rao Bahadur G. R. Kothare, Dr. W. Burns, Mian Nurullah and Messrs. S. D. Saklatvala, J. Vonesch and G. C. R. Coleridge be appointed additional members on the Board of Governors of the Institute of Plant Industry, Indore, for the year 1935-36.”

SUBJECT 69.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The Secretary's note was recorded.

SUBJECT 70.—*Spread of Garrow Hill or Deorwada cotton in Berar—Letter from the Government of the Central Provinces.*

Resolutions were passed by the Central Provinces Provincial Cotton Committee in September 1934, and the Indian Central Cotton Committee in February 1935, requesting the Central Provinces Government to prevent the growing of Garrow Hill cotton in the Central Provinces. Garrow Hill cotton is a very inferior type of cotton having no staple and no spinning value, and fit only for mixing with genuine C. P. cotton to the detriment of the latter's reputation and value. The Central Provinces Government, however, decided to introduce legislation only to penalise the mixing of different varieties of cotton.

* Appendix X (page 81).

† Appendix XI (page 94).

Summary of discussion.

Mr. N. M. Deshmukh said that the proposed legislation was not enough and would not serve the purpose in view. Garrow Hill cotton, being a hardy and prolific variety capable of giving higher yield than ordinary C.P. cotton, would still continue to be grown by the cultivator and be a source of imminent danger to *Verum* for extending which several lakhs of rupees were being spent by the Committee. Taking a far-sighted view it was also clear that the interests of the growers of the Central Provinces also hung in the balance if Garrow Hill cotton was continued to be grown. C. P. cotton was not now fetching its proper price in the Bombay market. The only remedy lay in enacting a law to stop altogether the growing of Garrow Hill cotton in the Central Provinces. He, therefore, moved the following Resolution :—

RESOLUTION.—"The Indian Central Cotton Committee requests the Central Provinces Government to re-consider the question of prohibiting the growing of Garrow Hill cotton, as in its opinion the action which the Local Government propose to take, viz., the introduction of legislation to prohibit the sale of mixed cotton as pure, will not prevent the spread of this inferior cotton. The known presence of even small areas of an inferior cotton tends to lower prices in the markets where this cotton is sold and the growers of better quality cotton will also suffer. As the Central Provinces Government has accepted the policy of encouraging the growth of *Verum* cotton in the Central Provinces and Berar, the Indian Central Cotton Committee considers that the growing of Garrow Hill is inimical to that policy and positively detrimental to the interests of the better quality cotton growers and should be discouraged."

Before adjourning for lunch, the *Vice-President* proposed a hearty vote of thanks to the Hon'ble Khan Bahadur D. B. Cooper, Finance Member of the Government of Bombay, and expressed on behalf of the Committee great pleasure at his presence at the meeting.

Replying to the vote of thanks, the *Hon'ble Member* assured the Committee that full consideration would be given by the Bombay Government to the present debate on problems concerning the Bombay Presidency and any recommendations which the Committee might make in future.

Resuming, after lunch, the discussion on the subject of Garrow Hill cotton in Berar, *Rao Bahadur M. G. Deshpande* seconded *Mr. Deshmukh's* resolution. He fully realized the unwisdom of encouraging this cotton which tempted the grower and the merchant by its hardiness and appearance though it was useless to the spinner. *Mr. Vonesch* supported the resolution. He failed to understand the Central Provinces Government's policy of encouraging long-staple cotton at an enormous cost and of giving at the same time free scope to the growth of very short staple cotton. *Messrs. D. N. Mahta* and *B. C. Burt* also spoke in support of the resolution. *Rao Bahadur Kothare* strongly supported the resolution and said that, on account of mixing of *Verum* cotton seed in ginning factories with seed of low

quality cottons, the quality of *Verum* cotton marketed in Khamgaon had deteriorated. In the circumstances, he saw no reason why the growing of Garrow Hill cotton should not be put down with a strong hand.

The resolution was put to vote and carried unanimously.

SUBJECT 71.—*Brochure on past work of the Technological Laboratory and its future programme.*

Summary of discussion.

Mr. Burt said that the Technological Research Sub-Committee had approved of the brochure prepared by Dr. Nazir Ahmad subject to the inclusion of (1) an introductory paragraph setting out the objects of the Technological Laboratory, viz., the testing of cotton for cotton breeders and the study of the relation between the measurable characters of the cotton fibre and its spinning value and (2) a summary in less technical language of the more important work done and published. Subject to certain amendments the programme of future work was also approved. The Technological Laboratory was of considerable value to cotton breeders because it enabled tests to be carried out on small quantities of cotton whereas for mill tests a bale or two of cotton was required. The Laboratory thus helped new cottons to be put into cultivation much earlier than was the case when tests were made at mills. Dr. Nazir Ahmad said that the brochure which it was decided to publish gave a brief historical review of the work of the Laboratory and he narrated how this work had developed. Referring to a question that had been raised as to why the prediction formula for Egyptian and American cottons could not be applied to Indian cottons he said that this was due to the difference in the range of fibre properties for these cottons. Dr. W. L. Balls had worked the correlation of fibre properties and spinning performance for Egyptian cottons and found that fibre weight per inch was the most important property whereas work in the Technological Laboratory had shown that in the case of Indian cottons fibre length was the most important. Mr. B. S. Patel said that millowners attached much importance to feel and Mr. D. N. Mahta enquired if any relative value could be assigned to feel and staple length.

Dr. Nazir Ahmad replied that the Laboratory could undertake a statistical analysis to find out the correlation co-efficient between the grader's valuation and the spinning value of cotton, but the difficulty was that the grader's valuation depended not only on the inherent quality of cotton but also on the condition of demand and supply which was a variable economic factor.

The brochure was approved subject to the amendments proposed by the Technological Research Sub-Committee.

SUBJECT 72.—*Establishment of regulated cotton markets in the Bombay Presidency.*

The Secretary's note reported that a cotton market was established at Dhulia under the Bombay Cotton Markets Act in 1930, and another at Amalner in November 1934. The Bombay Government had since declared the cotton market at Bail-Hongal to be a cotton market under the Act. The question of opening similar markets at Surat, Broach and Bijapur was receiving the attention of Government.

The Secretary's note was recorded.

SUBJECT 73.—*Mixing of different types of Indian cotton—Letter from the Chairman, Lancashire Indian Cotton Committee.*

Secretary's note.

"At its meeting held in February last, the Committee considered a letter from the Chairman, Lancashire Indian Cotton Committee, on the above subject and passed the following resolution :—

"That a copy of this discussion be sent to the Chairman, Lancashire Indian Cotton Committee, with reference to his letter dated the 23rd November 1934, and his reply to the various points brought out in the discussion be awaited."

This resolution, together with a copy of the discussion on the subject, was accordingly forwarded to the Lancashire Indian Cotton Committee and the following letter received in reply is for consideration :—

Copy of letter dated the 9th July 1935, from the Chairman, Lancashire Indian Cotton Committee, to the Secretary, Indian Central Cotton Committee.

We wish to thank the Indian Central Cotton Committee for sending us a full report of the discussion on mixing at the meeting held on 4th February 1935, which gives us a much clearer idea of the difficulties of the problem.

We fully appreciate the good work the Indian Central Cotton Committee is doing, and have every desire to assist in any way possible, and we trust that they will understand that any suggestion we may make are intended not as criticisms but to help in the object we both have in view, namely, to increase the demand for Indian cotton, and by so doing to give a better return in rupees per acre to the cultivator. We realise that there is a definite demand for some purposes for mixed cotton, and this makes the problem more difficult. In cases where spinners have thought the types they were buying not mixed and have received mixed cotton, they have been very disappointed, and have not continued to use the cotton, but turned to something else, and it is difficult to get them to try Indian cotton again. The people who are using the mixed cotton regularly know what to expect, and on the whole are fairly well satisfied with what they receive. If we are to increase the consumption we must get the cotton taken up by new users, and there is, as stated before, a very large market which as yet is practically untouched to a large extent because of a lack of regular opportunities for those, normally using American types, to acquire experience of the spinning qualities of mixed and unmixed Indian cottons. This we are doing our best to remedy. The only real remedy is to make the sale of the good cottons more profitable.

If the shippers will prepare the best types available, and ship well up to them, and give a guarantee of purity, which both some of your Committee and other shippers say they are prepared to do, we think the difficulty may, to a large extent, be overcome."

The Secretary's note was recorded.

SUBJECT 74.—*Mixing of Punjab-American cotton—Reduction of freight charges by railways for transport of kapas.*

Summary of discussion.

Mr. Vonesch said that in order to find out whether freight rates on the North Western Railway had been reduced in order to compete with road transport figures for station to station transportation of *kapas* should be obtained from the Railway and the subject further considered by the Local Sub-Committee. Mr. Williams declared that *kapas* was brought from distances of about 300 miles by rail. Mr. Burt drew attention to the fact that it was cheaper to transport seed and baled cotton separately than to transport *kapas* and said that railways should not grant concessions for the transport of *kapas* for long distances except in cases where ginning facilities were not available.

The proposal to refer the subject for further examination by the Local Sub-Committee was accepted.

SUBJECT 75.—*Railway freight rates on cotton—Letter from the Director, Railway Board.*

In January 1934, the Committee passed a resolution requesting the Government of India to prevail upon the Railway Board to reduce the freight on cotton in order to afford relief to the agriculturist in view of the low prices of cotton during the previous four years. Subsequently the Government of India were informed that it was essential that if any one railway lowered its rates other railways should allow corresponding reductions on their lines. The Railway Board replying to the representations of the Committee said that it was not satisfied that there was any justification for a reduction in railway freights on cotton and that any substantial reduction in freight would mean considerable loss to railway revenues without the prospect of any increase in traffic. In order to prevent diversion to the sea route *via* Surat and the Kathiawar ports the two railways affected had greatly reduced their freight rates at considerable loss of revenue and railways would continue to give sympathetic consideration to any representations which trade interests might make to encourage movements from areas where cotton growing was diminishing or was found to be no longer profitable. To the second request of the Committee the Board were unable to agree as it considered that the apportionment of through rates between railways was a domestic matter and was influenced by various considerations.

The Committee decided that in view of the fact that the re-classification of goods for purposes of railway freights was being reconsidered, the Committee should re-examine this subject with special reference to the value of various commodities transported and for this purpose obtain such figures as were necessary from the Imperial Council of Agricultural Research.

SUBJECT 76.—*Gujarat Boll-worm Clean-up Scheme—Measures for the eradication of the Boll-worm pest in Gujarat—Letter from the Government of Bombay.*

In view of the fact that 10 per cent. of the cotton growers in the area where the scheme for the eradication of the Gujarat boll-worm was being carried out failed to adopt the clean-up measures recommended, the Committee at its meeting in August 1934 decided to bring to the notice of the Government of Bombay that they must be prepared either to provide a considerable sum of money for propaganda and for suitable administrative action to secure the continuance of the control measures or to introduce legislation making the adoption of these measures compulsory. In reply the Bombay Government stated that as the Committee had sanctioned the Plant Puller Propaganda Scheme for a period of two years from the 1st April 1935, the staff sanctioned for the scheme and of the Agricultural Department would carry on educative propaganda and that therefore little would be lost if legislation were postponed for two years.

It was pointed out that as the Committee's scheme was due to end in June 1936 the Act ought to be in operation by that time in order to avoid a gap, but since the clean-up season would only begin in February 1937 it would be enough if the Act was enforced from the latter date.

SUBJECT 77.—*Broadcasting in the mornings of commercial news on cotton.*

At its meeting held in August 1934, the Committee passed a resolution urging upon the Government of India the revival of the system of early morning broadcast from Bombay of cotton prices.

Mr. N. M. Deshmukh in moving the subject said that it was regrettable that the Government of India had not so far given effect to the Committee's recommendation. He had been told by some that broadcasting service was meant for instruction and entertainment and

that under the conditions of the license any information obtained by the owner of the receiving set could not be published. Could any one seriously say, he asked, that under the conditions of the license the owner of a set could not call a friend to listen in, or a hotel or a shop could not instal a set for the benefit of its customers? This argument on the face of it was untenable. The second objection he heard was that average agriculturists were too poor to own sets and could not therefore be directly benefitted by the broadcasting of prices. He saw no force in this argument either as it was possible for Cotton Market Committees to instal receiving sets and serve the best interests of growers by giving them the latest and reliable prices in Central Markets. Another objection put forward was that if the Committee's proposal was agreed to, other interests such as of gold, silver, jute, etc., might ask for similar concessions. This was not at all a valid objection. Commercial news were now being broadcast in the evenings and it would not cost Government very much to make this slight change which was of immense benefit to growers, viz., that of broadcasting news on cotton in the mornings instead of in the evenings. Further if a change was going to benefit other people, too, there was no reason why their requests should not be complied with. A fourth objection to the proposal was that the legitimate function of a broadcast service was not the publication of commercial news alone. If so, he would say that the imparting of instruction on current news, being a legitimate function of the service, must include cotton prices as well. There was no doubt that the Committee's proposal was in the best interests of growers. Not only their representatives on the Committee, but also the Local Governments had fully endorsed this view of the Committee. In the circumstances he wished to move the following Resolution :—

RESOLUTION.—"The Indian Central Cotton Committee regrets that the Government of India have not yet passed any orders on the unanimous Resolution of the Committee recommending to the Government of India to resume the broadcasting of cotton rates and hopes that the practice of broadcasting cotton rates will be resumed as soon as possible."

Rao Bahadur Kothare in seconding the resolution said that receiving sets had been installed in villages where telegraphic communications could not be had and that the withholding of this news from the grower was a definite set back to village uplift work.

The resolution was put to vote and carried unanimously.

SUBJECT 78.—*Application of Leave Rules to the staff of the Publicity Department.*

The Committee decided that, although the appointment of the Publicity Officer was temporary, the staff of the Publicity Department should for purposes of the leave rules be treated as permanent in view of the fact that publicity was considered to be an indispensable part of the Committee's activities.

SUBJECT 79.—*Progress Report on the Scheme for the Improvement of Cotton Forecasts of the Bombay Presidency.*

The scheme for the improvement of the cotton crop forecasts of the Bombay Presidency, sanctioned by the Committee in January 1934 for a period of two years.

in the first instance, completed its first year of working on the 15th June 1935. The estimated total cost of the scheme for two years is Rs. 11,694, the pay and travelling allowance of an officer and the cost of clerical assistance given to him being the main items of expenditure. In the course of his investigations the officer discovered several sources of inaccuracies in all the three factors, viz., area, anna valuation and standard yield figures, the sum of the respective products of which for each unit civil division in the Presidency is the estimated yield of the cotton crop of the Presidency, as published in Government cotton forecasts. Two salient features of the work during the year were (1) the modification of standard yield figures and (2) the detection of a serious mistake amounting to a lakh bales in the estimate of yield of an Indian State. The absence of complete and reliable data relating to (1) the movement of cotton from and into British territories into and from adjoining State territories, and (2) the quantity of loose cotton received in mills is a great handicap to the investigation.

This Report was considered by the Committee under Subject 19—Report of the Cotton Forecast Improvement Sub-Committee.

SUBJECT 80.—*Revised and Extended Scheme for the distribution and extension of Jayawant and Gadag No. 1 cotton seed in Southern Division, Bombay Presidency.*

Under this scheme, the Director of Agriculture, Bombay Presidency, proposed to extend the cultivation of *Jayawant* and *Gadag* 1 cottons in the Bijapur, Belgaum and Dharwar districts of the Bombay Presidency. The scheme would work in six successive stages, selfed seed being produced by the Department on two-acre plots in the first stage, and multiplied in the second stage on a 40-acre plot in the case of *Jayawant* and a 20-acre plot in the case of *Gadag*-1. In the third stage the seed would emerge from Departmental hands, and spread to seven centres in the case of *Jayawant* and two centres in the case of *Gadag*-1 to be grown to the extent of 100 or 150 acres at each centre by approved cultivators. The centres selected for this purpose are Hubli, Haveri, Bailhongal, Athani, Navalgund, Bagalkot and Bijapur for *Jayawant* and Gadag and Ron for *Gadag*-1. In the fourth and fifth stages, pure seed would further be multiplied by cultivators on 1,000-acres and 10,000 acres respectively at each centre. The Department would continue supervising the extension of seed in all these three stages, and keep the fields pure by removing all off-type plants. In the last and sixth stage seed sufficient for a lakh or $\frac{3}{4}$ lakh of acres would be distributed for general cultivation at each centre. The Director of Agriculture, Bombay Presidency, thus hoped ultimately to cover in five years an area of $7\frac{1}{2}$ lakh acres and $1\frac{1}{2}$ lakh acres respectively with *Jayawant* and *Gadag*-1 cottons.

When these proposals were placed before the Committee at its previous meeting, the Committee referred them back to the Director of Agriculture, as the total estimated cost of the scheme, viz., Rs. 4.1 lakhs, was thought to be too high. In the revised proposals the total cost of the scheme had been brought down to 2.67 lakh rupees, of which a part was already available from savings of other *Jayawant* and *Gadag*-1 schemes which need not now function.

Summary of discussion.

Mr. Allan, referring to the Agricultural Research Sub-Committee's Report on this scheme, said that the failure of the existing Hubli and Gadag schemes to cover the stipulated area was chiefly due to the difficulties experienced in the multiplication and distribution of pedigree seed owing to the large area to be controlled by one agency from one centre. In the new proposals, this defect had been eliminated by giving scope for as many agencies as were found necessary to operate from seven centres. Rao Bahadur Salimath pointed out that, though there were several lakhs of acres under Kumpta and 2 lakhs under Upland in the Southern Division, the area under *Jayawant* was only $1\frac{1}{2}$ lakh acres and that under *Gadag*-1 only a lakh acres. The present scheme was a larger one intended to cover about $7\frac{1}{2}$ lakh acres with *Jayawant* from 7 centres in Dharwar, Belgaum and Bijapur districts

and $1\frac{3}{4}$ lakh acres with *Gadag-1* from two centres. If this were not done, the position already gained might be lost. Moreover, he emphasized that the average cost per acre of this scheme came to only one anna, which compared very favourably with the cost of other schemes financed by the Committee. *Mr. Burt* said that the Committee had accepted the general principle that when schemes were renewed Provincial Governments should be asked to bear an increased share of the cost. The present Departmental staff was more or less the same as that of ten years ago, and the Sub-Committee was therefore right in saying that Government's contribution to this scheme was more technical than real. The Committee should therefore ask the Bombay Government to bear a larger share of cost than before. *Mr. Patel* opposed the application of this principle because the Agricultural Department had already spent time and money and paved the way for considerably reduced expenditure at this stage. The principle referred to should not be taken as a hard and fast rule, but should be applied on the merits of the case. *Mr. Burt* replied that the Committee's principle was a perfectly general one, and should be insisted on, as in the case of the Punjab. He thought it would not be unreasonable to ask the Government of Bombay to share, irrespective of what had been spent by them in the past, a quarter of the new expenditure of Rs. 1,78,440. *Mr. Patel* said that the Government of Bombay spent a good deal of money on the Government farms which were working under the scheme. He emphasized the point that in its average cost per acre this was the cheapest of all schemes. *The President*, in summing up the discussion, said that the net grant asked for was Rs. 1,78,440, and that *Mr. Burt*, while acknowledging the contributions made in the past by the Government of Bombay, still had insisted that the Committee should stick to its recent decision that the Local Government should bear an increased share of the cost of an extended scheme, and suggested that this share might be put at 25 per cent. in this case. In this connection it was pointed out that in a similar case the Punjab Government fell in line with the Committee's views. *Mr. Patel* had at the same time advanced reasons for waiving this principle in this case, and pointed out that, if this was not done, there was the possibility of the scheme being delayed for a considerable time. It was now for the Committee to say whether the whole of Rs. 1,78,440 should be sanctioned or only 75 per cent. of it, the rest being met by the Government of Bombay.

The President put to vote *Mr. Burt's* amendment, viz., "that the Government of Bombay should be asked to bear 25 per cent. of the net grant of Rs. 1,78,440 recommended by the Agricultural Research Sub-Committee."

The amendment was carried.

The Report of the Agricultural Research Sub-Committee, as amended, was adopted.

SUBJECT 81.—*Representation of the Indian Central Cotton Committee on the International Federation of Master Cotton Spinners' and Manufacturers' Associations.*

At its meeting in February 1935, the Committee decided to obtain representation on the International Federation of Master Cotton Spinners' and Manufacturers' Associations as thereby it was considered that complaints arising abroad regarding

minor faults in Indian cottons could most effectively be dealt with. Before, however, addressing the Federation direct, the Committee decided to ascertain whether there would be any objection to representation being given. Enquiry elicited the information that under the constitution of the Federation the Committee could not obtain direct representation on it but it was possible for copies of the agenda of meetings of the Federation to be supplied to the Committee so that if it was found that the agenda contained any subject in which the Committee was interested it could send a representative to the Federation or state its opinion by letter.

The above arrangement was considered to provide a satisfactory solution of the question.

SUBJECT 82.—*Bombay Cotton Control Bill*—Bill to provide prohibition of cultivation of Goghari cotton.*

Summary of discussion.

Mr. Patel said that the Bill closely followed the Madras Cotton Control Bill, the main difference being that the penalty for mixing was higher to ensure that the practice would be effectively prevented. The Bill also provided for the compounding of cases so as to reduce the cost of litigation.

Mr. Burt moved the following resolution which was carried unanimously :—

RESOLUTION.—“ The Indian Central Cotton Committee welcomes the Bombay Cotton Control Bill which the Bombay Government propose to introduce in the local Legislative Council. The Committee is convinced that unless legislative action of this nature is taken Goghari cotton will spread rapidly in the Surat tract and ruin the reputation of 1027A.L.F. cotton to the detriment of the cotton growers of the tracts affected.”

SUBJECT 83.—*Training grant of Mr. Taskhir Ahmad.*

Mr. Taskhir Ahmad of the Punjab Agricultural Department was awarded a training grant by the Committee for further studies in Entomology in England for a period of two years and furnished an undertaking that he would refund the whole of the amount received from the Committee if he gave up his studies in the middle of his course without the consent of the Committee. Mr. Taskhir Ahmad completed his course for the Ph. D. of Cambridge in 18 months and as he was exempted by the University from residence for the sixth term he left for India to attend for interview by the Public Service Commission for the post of Assistant Entomologist, Pusa. As he had paid the University fees for the 6th term amounting to £40-16-0, Mr. Taskhir Ahmad requested the Committee to waive the recovery of this amount. In forwarding the application, the Director of Agriculture, Punjab, stated that Mr. Taskhir Ahmad had made it impossible for him (the Director) to fulfil the undertaking which he had given the Committee that Mr. Taskhir Ahmad would on his return to India devote his time to certain aspects of cotton entomology. By giving up his scholarship before its sanctioned period without the consent of the Committee Mr. Taskhir Ahmad had further violated the undertaking given by him and had rendered himself liable to refund the total amount of the scholarship received by him from the Committee. The Standing Finance Sub-Committee which considered Mr. Taskhir Ahmad's application decided that he should be requested to refund the whole amount of his scholarship, viz., £288-11-6, drawn from the Committee. A further representation from Mr. Taskhir Ahmad on the subject was received and considered.

* Appendix XII (page 99).

Summary of discussion.

Mian Nurullah said that by completing the Ph.D. course Mr. Taskhir Ahmad had fulfilled the purpose for which the scholarship had been granted though he had committed a mistake by omitting to obtain the Committee's permission before applying for the Pusa post. The Committee's scholars had been allowed to take up better appointments whenever opportunities offered and Mr. Taskhir Ahmad's case should therefore be dealt with sympathetically. *Mr. Burt* said that Mr. Taskhir Ahmad had not been sent to take his Ph.D. degree but to have a two years' course in research parasitology and to this effect he had given an undertaking. By accepting the Pusa appointment Mr. Taskhir Ahmad had further made it impossible for the Director of Agriculture to fulfil the assurance given by him on behalf of the Punjab Government that on his return to India Mr. Taskhir Ahmad would be employed on cotton entomology. He was not being treated harshly as, though he was being asked to refund the total amount of his scholarship, he was not deprived of taking up the Pusa appointment. *Sardar Sampuran Singh* said that as Mr. Taskhir Ahmad had completed his course he had fulfilled the conditions of his scholarship. He was also doubtful if the conditions imposed by the Committee would be admitted in a Court of Law. He considered it anomalous that the Punjab Government should on the advice of their Director of Agriculture permit Mr. Taskhir Ahmad to accept the Pusa appointment, only if he refunded £288-11-6, since this amount was actually received by him from the Committee by way of scholarship. *Mr. Burt* emphasized the fact that Mr. Taskhir Ahmad had not completed his training in parasitology and that his taking the Ph.D. degree was only incidental to his training.

It was finally decided that as Mr. Taskhir Ahmad was a servant of the Punjab Government, those members who wished to support his case should represent the matter first to the Punjab Government and then to the Committee.

Retirement of President.

In view of Sir T. Vijayaraghavacharya's impending retirement, the Vice-President moved the following Resolution :—

RESOLUTION.—"The Indian Central Cotton Committee places on record, at this the last meeting of the Committee at which Sir T. Vijayaraghavacharya presides, the uniformly able and efficient manner in which Sir T. Vijayaraghavacharya presided over the Committee for six years. His consistent courtesy to each member and his unrivalled tact and patience in dealing with the various questions that were dealt with by the Committee have been an asset to the Committee.

The Committee records its best thanks to Sir T. Vijayaraghavacharya for the continued close attention he gave to details of the questions disposed of during this period and it tenders him its best wishes on the eve of his retirement."

In moving the resolution he referred to the very capable manner in which Sir T. Vijayaraghavacharya had carried out his duties as

President of the Committee and said that he was firm in his views whenever principles were concerned but pliable in the matter of details. These qualities were essential in the head of any administrative Committee. *Mr. Saklatvala* in seconding the resolution expressed his admiration at the rapidity with which Sir T. Vijayaraghavacharya had acquired a deep knowledge of the Committee's schemes and ascribed to his tact and ability the fact that the Committee had been able to accomplish so much. *Mian Nurullah* associated himself with the remarks of the previous speakers and referred to the gift which Sir T. Vijayaraghavacharya possessed of being able to dispose of a considerable amount of work in a short time without in any way depriving a member of the opportunity of giving expression to his views. *Mr. Chunital B. Mehta* dwelt upon Sir T. Vijayaraghavacharya's great patience and never failing courtesy and *Messrs. Coleridge and Ritchie* to the charm and wit with which he enlivened the meetings. *Mr. Nizam-ud Din Hyder* declared that Sir T. Vijayaraghavacharya had laid the foundation of agricultural federation in India and *Mr. C. V. Sane* acknowledged the equality of treatment meted out to the smaller States. *Rao Bahadur M. G. Deshpande* and *Mr. N. M. Deshmukh* expressed their appreciation of Sir T. Vijayaraghavacharya's impartial and sympathetic treatment of members adding that he would always be remembered with affectionate admiration. *Dr. Nazir Ahmad* acknowledged his indebtedness for the assistance he had received from Sir T. Vijayaraghavacharya in his work and for his willingness in rendering help whenever needed.

Sir T. Vijayaraghavacharya in acknowledging the kind references made about himself said that he considered it a privilege to be associated with men of the standing of members of the Committee, who in spite of differences in race, religion and interests were united in the common object of advancing the interests of India in one common direction. He expressed his appreciation of the unfailing courtesy with which his dealings with members had been received and he regarded their declaration that he had treated them in the manner expected of a Chairman to be the highest praise which could be bestowed on a Chairman. He considered the work which he had done for the Committee and for the Imperial Council of Agricultural Research as one of pure enjoyment. In conclusion he thanked the members for their appreciative references to him and in expressing the hope that he had deserved at least some of them declared that he would carry lasting recollections of them with him.

The meeting then terminated.

P. H. RAMA REDDI.

RESOLUTIONS.

No.

First Annual Report of the Lancashire Indian Cotton Committee.

- 1 "The Indian Central Cotton Committee wishes to express its appreciation of the efforts made by the Lancashire Indian Cotton Committee to extend the use of Indian cotton in Lancashire as indicated in their first Annual Report and to assure that Committee of its desire to co-operate to the fullest extent possible in all matters affecting the interests of both bodies."

Formation of a compact block of long staple cotton in Sind.

- 2 "With reference to Bombay Government's Resolution of the 8th March, the Indian Central Cotton Committee appreciates the fact that the Local Government agree fully with the recommendations of the Chief Agricultural Officer in Sind, namely, that the compact block of long staple cotton in Sind can only be achieved by licensing of gins and presses, use of special marks in the licensed factories, seed supply organization and organized marketing.

The Indian Central Cotton Committee now urges Government to translate these recommendations into action with the least possible delay and trusts they will not hesitate to introduce whatever legislation is necessary if the above measures prove inadequate. It further recommends, firstly, that the compact area be reserved for the growth (from specially selected Government seed) of long staple cotton only, such as, 289-F and N. T., and secondly that the Transport Act be introduced to prevent the importation of *kapas* from outside areas."

Progress Report of the Director, Technological Laboratory.

- 3 "That the Report of the Director, Technological Laboratory, be approved."

Report of the Technological Research Sub-Committee.

- 4 "That the Report of the Technological Research Sub-Committee be adopted and that the purchase of a Shirley Analyser be approved."

Plant Puller Propaganda Scheme in Surat and Broach Districts.

- 5 "That in view of the fact that the scheme of work on spotted boll-worm control terminates in June 1936, the Central Cotton Committee desires to emphasise the necessity of legislative sanction being obtained before that date to enable the uprooting of cotton stalks to be enforced."

Half-yearly Report of the Publicity and Propaganda Officer and renewal of his agreement.

- 6 "That the Report of the Publicity and Propaganda Officer be recorded."
"That the Committee do represent to the Government of India that the previous recommendation made by it be approved by them."

Report of the Cotton Forecast Improvement Sub-Committee.

- 7 "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."
8 "That a copy of this discussion together with a copy of the Progress Report of the Bombay Cotton Forecast Improvement Scheme be forwarded to the Government of India for information."

RESOLUTIONS—*contd.*

No.

Report of the Special Sub-Committee on Wider Markets for Indian Cotton.

- 9 "That the Report of the Special Sub-Committee on Wider Markets for Indian cotton be adopted subject to the above amendments."

Report of the Standing Finance Sub-Committee.

- 10 "That the Report of the Standing Finance Sub-Committee be adopted."
 "That the Balance Sheet as at 31st March 1935 be approved."
 "That the Final Accounts for 1935-36 be approved."
 "That the Revised Estimates for 1935-36 be approved."
 "That the Budget for 1936-37 (Government servants) be approved."
 "That Sardar Rao Bahadur Bhimbhai Ranchodji Naik, Rao Bahadur G. R. Kothare, Dr. W. Burns, Mian Nurullah and Messrs. S. D. Saklatvala, J. Vonesch and G. C. R. Coleridge be appointed additional members on the Board of Governors of the Institute of Plant Industry, Indore, for the year 1935-36."

Spread of Garrow Hill or Deorwada cotton in Berar.

- 11 "The Indian Central Cotton Committee requests the Central Provinces Government to reconsider the question of prohibiting the growing of Garrow Hill Cotton, as in its opinion the action which the Local Government propose to take, viz., the introduction of legislation to prohibit the sale of mixed cotton as pure, will not prevent the spread of this inferior cotton. The known presence of even small areas of an inferior cotton tends to lower prices in the markets where this cotton is sold and the growers of better quality cotton will also suffer. As the Central Provinces Government has accepted the policy of encouraging the growth of *Verum* cotton in the Central Provinces and Berar the Indian Central Cotton Committee considers that the growing of Garrow Hill is inimical to that policy and positively detrimental to the interests of the better quality cotton growers and should be discouraged."

Report of the Agricultural Research Sub-Committee.

- 12 "That the Report of the Agricultural Research Sub-Committee be adopted."

Broadcasting in the mornings of commercial news on cotton.

- 13 "The Indian Central Cotton Committee regrets that the Government of India have not yet passed any orders on the unanimous Resolution of the Committee recommending to the Government of India to resume the broadcasting of cotton rates and hopes that the practice of broadcasting cotton rates will be resumed as soon as possible."

Application of Leave Rules to the staff of the Publicity Department.

- 14 "That for purposes of leave rules the staff of the Publicity Department should be treated as permanent"

Representation of the Indian Central Cotton Committee on the International Federation of Master Cotton Spinners' and Manufacturers' Associations.

- 15 "That the papers on this subject be recorded and that the thanks of this Committee be conveyed to Sir Richard Jackson for his assistance in the matter."

RESOLUTIONS—*concl'd.*

No.

Bombay Cotton Control Bill.

- 16 "The Indian Central Cotton Committee welcomes the Bombay Cotton Control Bill, which the Bombay Government propose to introduce in the local Legislative Council. The Committee is convinced that unless legislative action of this nature is taken *Goghari* cotton will spread rapidly in the Surat tract, and ruin the reputation of ₹027 *A.L.F.* cotton to the detriment of the cotton growers of the tracts affected."
- 17 "The Indian Central Cotton Committee places on record, at this the last meeting of the Committee at which Sir T. Vijayaraghavacharya presides, the uniformly able and efficient manner in which Sir T. Vijayaraghavacharya presided over the Committee for six years. His consistent courtesy to each member and his unrivalled tact and patience in dealing with the various questions that were dealt with by the Committee have been an asset to the Committee.

The Committee records its best thanks to Sir T. Vijayaraghavacharya for the continued close attention he gave to details of the questions disposed of during this period and it tenders him its best wishes on the eve of his retirement."

APPENDIX I.

Minutes of Special Sub-Committee of Sind Cotton Committee held at Karachi in the office of the Chief Agricultural Officer in Sind on Monday, the 11th February 1935, at 11 a.m.

Present.

W. J. Jenkins, Esq., M.A., B.Sc., I.A.S., Chief Agricultural Officer in Sind,
Chairman.

Rao Bahadur Tharumal Bilaram,

Rijhumal Shewaram, Esq.,

K. B. Azim Khan, Deputy Registrar, Co-operative Societies, Sind,

K. I. Thadani, Esq., Botanist in Sind, A.R.S., Sakrand,

K. H. Advani, Esq., Cotton Supervisor, Indus Left Bank, Mirpurkhas,

H. A. Idnani, Esq., Cotton Supervisor, Indus Right Bank, Dadu.

The Chairman explained to the members the object of calling this special meeting, the agendas of which had been supplied to them and their proposals received, then took each proposal seriatum and after discussion, the following decisions were arrived at.

SUBJECT 1.—*Introduction of the licensing of ginning and pressing factories in order to check mixing.*

This subject has already been discussed by the Sind Cotton Committee and their recommendations thereon forwarded to the Indian Central Cotton Committee. Attention is drawn to proposal 17 which is important in this connection.

SUBJECT 2.—*Propaganda to check 'mixing' and to encourage clean picking.*

The Agricultural Department in Sind should take early and intensive action to bring widely to the notice of cotton growers the importance of clean picking and the adoption of all measures which will tend to improve the class of the cotton. At the same time ginners and purchasers should be invited to co-operate by granting premia to sellers delivering clean-picked *kapas*. Afrinamas or certificates should be issued to growers with a reputation for delivering clean-picked cotton and lists of such growers circulated from time to time among ginners and purchasers. The attention of growers should be drawn by all forms of propaganda, to the serious disadvantages resulting from growing mixed cottons in the field or from mixing before delivery to the purchasers.

SUBJECT 3.—*Establishment of regulated cotton markets and improvement of marketing conditions.*

With regard to the establishment of regulated cotton markets in the districts, it is clear that the members of District Local Boards and the large cotton growers are not aware of the advantages which would result from such institutions. Propaganda work is urgently required to convince local opinion, on the desirability of such regulated markets. The establishment of an experimental cotton market at a suitable centre either by Government direct or by Co-operative agency is most desirable in order to educate growers on the benefits of such marketing improvements and to give experience of the detailed working of a regulated cotton market.

SUBJECT 4.—*Selection of certain ginning factories to gin Sind-American cotton pure—such factories to be certified as genuine source of Sind-American cotton (pure).*

This proposal is not considered to be practicable.

SUBJECT 5.—*Provision of adequate supplies of pure seed and establishment of seed depots at suitable centres.*

With regard to provision of adequate supplies of pure seed, the organisation started by the Agricultural Department is gradually increasing and, in a few years' time, will go a long way towards solving this difficulty. It is agreed that seed depots

for the distribution of departmental seed and seed from approved ginneries and of certified purity should be opened at selected centres and that, to begin with, this should be undertaken by the Sind Provincial Co-operative Bank, advised by the Agricultural Department.

SUBJECT 6.—*Introduction of standardised weights.*

It is agreed that this is desirable and that the proposal should be taken up by the Indian Central Cotton Committee on all-India basis.

SUBJECT 7.—*Advantages of Sind-American over other Indian cottons to be investigated and results broadcasted in mill centres.*

Two varieties of Sind-American cotton, viz., 289F-1 and 4F-98, should be included in the standard Indian cottons upon which annual spinning tests are being conducted at the Central Cotton Committee's Laboratory at Matunga. The annual returns of the different types of Indian cottons consumed in Indian mills and exported abroad should be periodically examined by the Sind Cotton Committee and efforts made to investigate the reasons for any drop in the use of Sind-American cottons by spinners in India or abroad.

SUBJECT 8.—*Deputation of an officer from Sind to study conditions of long staple cotton cultivation and marketing in America.*

This proposal is recommended and should be brought to the notice of the Indian Central Cotton Committee for the provision of a grant to cover the expenditure involved.

SUBJECT 9.—*Supply of sample bales of Sind American cotton to spinners in India and abroad.*

The proposal is approved and has already been given effect to a degree in the past. With the starting of a Government Ginning Factory at Mirpurkhas, the lint produced on Government Farms, etc., in Sind should be utilised for the preparation and sale of sample bales of improved Sind American cottons to centres where such cottons may be considered to be useful.

SUBJECT 10.—*Co-operative organization for the marketing of cotton.*

Reference is invited to the Note on subject 3. It is understood that this matter is receiving the attention of the Deputy Registrar, Co-operative Societies, Sind, and the Sind Provincial Co-operative Bank.

SUBJECT 11.—*Appointment of supervisors to analyse daily ginnings in factories to check mixing or to supervise ginnings of such factories which undertake not to produce mixed Sind-American cotton.*

It was agreed that, in view of the proposal 17, this proposal is not necessary.

SUBJECT 12.—*Introduction of the system of auction sales of pure seed cotton.*

This proposal is accepted and it is considered that a start should be made, under the direction of the Agricultural Department in Sind, with the produce of high quality cottons, i.e., *Sea Island*, *Boss III*, and *Ashmouni*, the cultivation of which is now extending in the districts under departmental supervision.

SUBJECT 13.—*Establishment of separate ginning factories for Sind-American and deshi cotton.*

As under proposal 4, this proposal is not considered to be practicable.

SUBJECT 14.—*Concession in assessment to cultivators of pure Sind-American cotton.*

So far as this proposal is concerned, it was agreed that, in areas reserved for the cultivation of Sind-American cotton, the assessment on the cultivation of Sind-American and *deshi* cottons should vary so as to give a stimulus to the cultivation of the American variety. The proposal should be examined by the Revenue Department in each separate case where it is proposed to be given effect to.

SUBJECT 15.—*Distribution of seed at concession rates to growers who grow one variety only (i.e., Sind-American).*

This proposal is not considered to be practicable.

SUBJECT 16.—*Supply of daily rates of cotton to zamindars.*

An experiment in the furnishing of daily rate by post-card to taluka offices for the information of cultivators should be undertaken by the Agricultural Department if the cost involved is not too high. Zamindars desiring such daily information should be supplied at their own cost.

SUBJECT 17.—*Sale of pure Sind American cotton, under an official mark, supplied by Government to ginning factories, and taken away if instances of malpractice, i.e., mixing, are brought to the notice of the issuing authorities by purchasers.*

It is agreed that this proposal would be most valuable in the marketing of pure Sind-American cotton and that steps should be taken to give effect to it as soon as possible. Instances of malpractice, which might involve the forfeiture of the 'mark,' should be investigated by the Sind Cotton Committee.

The Sub-Committee consider that the proposals Nos. 1, 3, 7, 14 and 17 are most important in connection with any campaign for the extension and marketing of pure Sind-American cottons, which may be contemplated in future.

W. J. JENKINS,
Chief Agricultural Officer in Sind
and
Chairman, Sind Cotton Committee.

APPENDIX II.

SUBJECT 11.—*Summary of Half-yearly Report of the Publicity and Propaganda Officer.*

The work of the Publicity and Propaganda Department of the Indian Central Cotton Committee in the dissemination of scientific and practical knowledge relating to cotton improvement in India, through publications touching on all aspects of the Committee's promotional activities and bringing the latest improvements to the notice of the cultivator on the land, continued to make quiet and steady progress during the period covered by this report. Close touch with the press for approaching the wider public, the provincial departments of agriculture and commercial interests was maintained and extended. The period presented even greater opportunities than that preceding it for giving helpful information, advice and assistance in various ways regarding problems which were addressed to the Department from many sources, official and unofficial. They were gratefully acknowledged by scientists, businessmen and producers.

Pink Boll-Worm Control Extension Campaign in the United Provinces.

The most notable event during the period under report was the province-wide campaign conducted by the Publicity Officer for the extension of control measures of the pink boll-worm, a pest of cotton which in one year caused a loss of nearly 2½ crores of rupees to the crop in the United Provinces, and the enquiry connected therewith for the purpose of finding out which of the alternative strings of cesses proposed by the Government, whether a cess of 4 annas charged over the whole Province on a maund of ginned cotton, or a cess of 2 annas over the whole Province, or a cess of 4 or 5 annas in the treated area as against a cess of 2 annas over the whole Province, to meet the cost of heating machines, their installation and working expenses, etc., were acceptable to those affected by the scheme. The campaign

extending over three months from the beginning of the year was preceded by two brief visits of a fortnight's duration each time paid to the experimental area with a view to study the effect of sun heating of the village stocks of cotton seed (*binaula*) in the areas then under pink boll-worm control in the districts of Aligarh, Saharanpur and Bijnor and later on to see the results of the heating process at the commencement of the harvest. The decided superiority of the crops in the treated area over the adjacent uncontrolled area both in regard to the stand of the plant, the opening of the bolls and the quality and quantity of the lint produced by comparing the yield per acre, and the price realised, convinced me of the efficacy of the method of sunheating the seed for completely destroying the pest which had resulted in a considerable improvement of the crop to the thorough satisfaction of the grower, and of the vital necessity of extending the control measures. A profusely illustrated pamphlet entitled "The Pink Boll-Worm Pest of Cotton and How to Control It" describing the life and habits of the pest, the extent of damage caused to the crop by it in the United Provinces, methods of its control and the results of experiments extending over 50,000 acres was specially prepared. This was reinforced by useful charts and graphs showing the extensive loss caused by the pink boll-worm and the striking gain in quality and quantity of *kapas* and money value of the crop, and estimates of the increased return to the cultivator by an extension of control measures. The literature was published in English, Hindi and Urdu. A ten-colour poster in the three languages mentioned above, depicting the life history of the worm and demonstrating the improvements effected in the crop by sun-heating the seed and better prices realised as the result thereof, was likewise expressly designed to create an impression among cultivators, merehants and ginners in favour of the scheme. The campaign was carefully organised and launched and co-operation of the Department of Agriculture, Government agencies, leading *zamindars*, merchants, businessmen of consequence and members of the Legislative Council was secured. Definite programme was arranged for the Province as a whole and important personages were notified of my visit several days in advance of meetings by the Entomologist to the Government of the United Provinces, so that they could have adequate time to go over the literature, send out notices and focus attention of the scheme in all its aspects. Some of these country wide meetings were attended by as many as 50 notables. Many of the meetings lasted as long as 3 hours without a single individual leaving the room. Meetings were held in town halls, high schools, farms, out of doors and in fields. In order that no one of any consequence should be left out, without expressing his views on the scheme and his opinion regarding the cess, the Publicity Officer was frequently called upon to take care of as many as 5 or 6 meetings arranged at many miles apart in one day, in addition to personal interviews obtained with prominent men in each centre. The campaign was extremely strenuous and lectures and demonstrations had to be carried out under most trying conditions. The lectures covered all aspects of the schemes. They dealt with problems of organization, control, finance, process of heat-treatment, technical details about the pests and the damage it caused, demonstration and propaganda, legislation, marketing, religious susceptibilities, and general questions of a political, economical and socio-religious nature. It might be said that the main purpose of the meetings was to create confidence among the *zamindars*, merchants and gin owners in the scheme proposed by the Government of the United Provinces as I knew that without the confidence of the interests concerned little could be accomplished. The cultivators were given clearly to understand that it was in times like these that every effort should be made to improve the yield and value of their produce by adopting the simple method of destroying the pest. It was pointed out to the merchants and the ginners that with increased yield they will have much more business and the adoption of the scheme will cost them nothing. The Government was not asking them to spend money on seed heating machines nor on their installation. The working expenses will be paid out of the cess fund. It was simply asking them to co-operate, so that control measures become effective and full benefit from the scheme is derived. When the vested interests realized that even 30 per cent. increase in the yield of *kapas*—the increase in fact has been much more—represents a saving of some two-third of a crore of rupees to the Province, the need for reform became apparent.

Demonstration at the Council Hall, Lucknow.

A noteworthy feature of the campaign was the staging of a special demonstration illustrative of samples of cotton, which were supported and explained by printed labels, charts and graphs relating to the scheme, in the Council Hall of the Legislative Council of the United Provinces. Considerable impetus to the focussing of attention of the members on the importance of adopting the scheme of pink boll-worm

control extension was imparted by the organization of demonstration on the 11th and 12th and again on the 20th of March, at a time when the session was in progress. The Publicity Officer had the unique opportunity of renewing his acquaintance with the members who had once before been approached during his tour at their respective places. Three-fourth of the hall was used for displaying typical samples of *kapas* from treated and untreated areas while the remaining portion occupied diagrams, charts, graphs, pictures, maps, pictorial displays to supplement the actual specimens of improved *kapas* and demonstration of the method of sun-heating. The members were taken round the exhibits whereafter there was a conference. The posters in English, Hindi and Urdu attracted much attention. Questions relating to the loss caused by the pest and the striking gain that had resulted in the quality and quantity of *kapas* of the areas where control methods had been applied were freely asked and answered.

It is pleasant to report that the interest aroused by the demonstration was encouraging. The evidence is already more than sufficient to entertain the hope that with their interest stimulated the members would give their co-operation in the adoption of extended methods of pink boll-worm control.

In taking stock of the extensive and thorough propaganda campaign in the United Provinces which closed in the middle of April, the following observations and accomplishments may be of interest :—

(1) Local interests all over the Province were notified of my visit and a well-planned propaganda campaign commencing several weeks in advance of my visit to the station was found most effective. A circular letter stating the object of the campaign and the purpose of the enquiry connected therewith was mailed to all notable persons from the Entomologist's office at Cawnpore. This made the task of organizing Province-wide meetings and/or obtaining personal interviews with the co-operation of the civil authorities more thorough. Nothing was left to chance as regards eliciting the views of those I met. Hundreds of meetings and conferences were held in townships and villages.

(2) In advance of and during the campaign there were sent out numerous circulars of information giving facts regarding improvements carried out as the result of sun-heating the seed and other information necessary. A Pink Boll-Worm Bulletin giving the main features of the scheme of extension was written incorporating control measures.

(3) A ten-colour poster to further the campaign was likewise prepared. About 5,400 leaflets and 1,400 posters were issued to growers, merchants, ginners and other men of influence.

(4) The campaign brought together men from all interests concerned with cotton industry and others indirectly allied with it with one object in mind, and that is to protect the crop from the ravages of the pest and avoid the colossal preventible loss caused by it.

Excellent co-operation was extended to the Publicity Officer by all interests concerned—the Department of Agriculture, United Provinces, *zamindars*, businessmen, ginners and other allied interests. Newspaper publicity was carefully handled in order to prevent undue alarm in those districts of the Province where propaganda in favour of the scheme had not been carried out. At the same time sufficient information was disseminated in the affected areas to focus attention and secure action from farmers whose crops were menaced, and their representatives in the Legislative Council.

A forty-six-page report of the tour and enquiry in the United Provinces has been submitted to the Government of the United Provinces. Copies will be placed on the table for members' information during the forthcoming half-yearly meeting but no discussion of the proposals suggested for adoption may take place before the report is adopted by the Government of that Province.

Press communiqués.

During the short time at his disposal at Head-quarters in the half year under report the Publicity Officer issued the following press communiqués :—

- (1) *The Report of the 30th meeting of the Indian Central Cotton Committee.*
- (2) *Development of cotton cultivation in the Central Provinces.*
- (3) *Combining of good quality Indian cottons.*
- (4) *Effect of storage prior to ginning on the spinning quality of cotton.*
- (5) *Development of cotton growing in the Bombay Presidency.*

Pamphlets.

The Publicity and Propaganda Department continued to regard as its prime function the dissemination of scientific cotton research through the medium of publications and distribution of publicity literature—pamphlets, leaflets, handbills and articles to the press. During the period under report a number of pamphlets, leaflets and articles were issued :—

- (1) *The Indian Central Cotton Committee : Its Objects, Activities and Achievements.*
- (2) *Cultivation of cotton on the Indus Right Bank Areas.*

There is a constant demand for free literature dealing with cotton subjects and although supplies are somewhat limited, several thousands of pamphlets, leaflets and other publications are distributed to applicants during the year.

The Publicity and Propaganda Officer has been sending out special articles to the press. These articles are in a language easily understood by the layman and contain much timely information. Through them the wider public is kept constantly in touch. The following articles based on literature already available were contributed and published :—

- (1) *Problems of cotton growing in the Central Provinces and Berar.* (Published in *Hitavada*, Nagpur and the *Civil and Military Gazette*, Lahore).
- (2) *Improving the Indian cottons.* (Published in *Textile Weekly*, Manchester).
- (3) *Improvement of Broach cotton.* (Published in *Textile Mercury and Argus*, Manchester).
- (4) *Survey of commercial Indian cottons.* (Published in *Current Science*, Bangalore).
- (5) *Yarn testing and its importance to cotton mills.* (Published in *Indian Textile Journal*, Bombay).
- (6) *High draft systems of spinning and their importance to trade.* (Published in *Indian Textile Journal*, Bombay).
- (7) *Cotton—India's greatest national industry.*—(Published in *Indian Textile Journal*, Bombay).
- (8) *Promotion activities with respect to India's cotton production this year and thereafter.* (Published in *Cotton Trade Journal*, America).

Interest continued to be taken in the work of the Lancashire Indian Cotton Committee. Its efforts to increase the offtake of Indian cotton and thereby to promote cotton trade between India and Great Britain are given wide publicity throughout the country. Copies of the illustration of the stall organised by that Committee at the British Industries Fair, 1935, at Manchester, in which were displayed various kinds of cloth manufactured from Indian cotton, were sent to all leading papers and journals in India and adequate publicity was secured.

A Telugu version of the poster "India's Bid for Supremacy in World's Cotton Markets" was recently printed for use in the Madras Presidency. It deals with the export figures of cotton and emphasises the national and international importance of this commodity.

Photographic prints of the poster on "The Pink Boll-Worm Pest of Cotton" prepared for the campaign in the United Provinces were also sent to the press in India and abroad.

The Department participated in the Kolhapur Fair which was held in the 2nd week of May 1935. Samples of standard Indian cotton and some posters were requisitioned for it.

At the request of the Agent, Japan Cotton Spinners' Association, Bombay, photographs and models showing the various activities of cotton agriculture in India as also of the Indian Central Cotton Committee's Technological Laboratory at Matunga, pamphlets for the dissemination of scientific information bearing on problems which the Committee was tackling and posters for use at the Memorial Exhibition at Formosa (Japan) were supplied.

Appreciative reference to the Committee's publicity work.

"The Indian Central Cotton Committee maintains its excellent work," comments the British Cotton Growing Association, in their 13th Annual Report (1934), "and several matters of great importance to the industry in India have engaged its attention during the past year. The various reports issued by its Publicity Officer have contained information of much interest and have done good propaganda work in disseminating scientific and practical information relating to the improvement of cotton in India.....etc."

APPENDIX III.

THE EAST INDIA COTTON ASSOCIATION, LTD.

That the By-laws of the Association be altered in manner following :—

I. *By-law 1.—*

Add the following definitions.

Option : means a right to buy, or a right to sell, or a right to buy or sell, cotton in future.

Teji or Call Option : means a right to buy cotton in future under an Option Contract.

Mandi or Put Option : means a right to sell cotton in future under an Option Contract.

Teji Mandi or Double Option : means a right to buy or sell cotton in future under an Option Contract.

Premium : means the price for which one party to an option contract sells an option to the other.

Option Contract : shall have the same meaning as "Option in Cotton" as defined in Section 3(h) of the Bombay Cotton Contracts Act 1932, or such other statutory definition as may from time to time be in force.

Basic Contract : means the contract which is deemed to result or which may be deemed to result if the buyer of an option under an option contract duly exercises his option.

Option Due Date : means the latest date on which the buyer of an option shall be entitled to exercise and declare his option in terms of the Option Contract.

Amend the definition of Trading Day by deleting the words "Hedge and Delivery" occurring therein and substituting the words "Hedge," Delivery and Option."

II. *By-Law 9.*

After the word "cotton" in the 20th line insert "or any Option Contract."

III. *By-Law 15.*

In each of sub-clauses (a) and (b) insert the words, "or an Option Contract" after the word "Contract" occurring in the first line thereof.

IV. *By-Law 38A.*

Insert the words "or option" immediately after the word "ready" occurring at the end of the third line thereof.

V. *By-law 50.*

In sub-clause (b) insert the words "or Option" between the words "Hedge" and "or" in the third line thereof.

In sub-clause (d) insert the words "or Option" between the words "Hedge" and "or" in the first line thereof.

VI. *By-law 51.*

In sub-clause (b) after the word "orders" insert "and excepting intimations of the exercise of an option."

VII. By-law 139.

Insert the words "and Option" between the words "Hedge" and "Contracts" in the second line thereof.

VIII. By-law 141.

In the first para. insert the words "and Option" between the words "Hedge" and "Contracts" occurring in the second line thereof.

IX. By-law 145.

After the word "Contracts" wherever it occurs insert "other than Option Contracts."

X. By-laws 186-202.

AFTER BY-LAW 185 ADD THE FOLLOWING NEW HEADING AND NEW BY-LAWS.

BY-LAWS RELATING TO OPTION BUSINESS.

By-law 186. All the parties to an Option Contract shall be deemed to act and be entitled to the benefits thereof and liable thereon as principals.

By-law 187. Option Contracts between members on the one hand and non-members on the other shall be made subject to the By-laws and a Contract Note in one of the Forms marked No. 8, or No. 9, in the Appendix or such other Form as the Board may from time to time prescribe in lieu thereof shall be rendered in respect of every such contract.

Option Contracts between members may be verbal or in writing; if in writing they shall be in Form No. 10, in the Appendix or such other Form as the Board may from time to time prescribe in lieu thereof; and if verbal they shall be deemed to be in terms of Form No. 10, or such other Form as the Board may from time to time prescribe in lieu thereof. Whether verbal or written all Option Contracts shall be subject to the By-laws.

By-law 188. No Option Contract entered into under the By-laws shall be cancelled by any of the parties thereto. Havalas of Option Contracts made with the consent in writing of all the parties concerned shall be valid and shall not be cancelled except with the authority of the Board.

By-law 189. If in a written Option Contract no valid option due date and/or delivery period shall be expressed on the face of the contract or if in a verbal Option Contract no valid option due date and/or delivery period shall be agreed by the parties when the contract is entered into, such contract shall be void and is prohibited.

By-law 190. On the due exercise by the buyer of his option under an Option Contract, there shall be deemed to result a valid Hedge Contract for the sale or purchase as the case may be of the cotton, quality, delivery, price and terms specified in the Option Contract, and all the By-laws relating to Hedge Contracts shall thereupon apply.

By-law 191. As one of the terms in an Option Contract between a member and a non-member the member shall be entitled to stipulate that on the due exercise of the option the non-member shall maintain with the member a margin against the resultant Hedge Contract not exceeding 20 per cent. of the contract value of the cotton to be delivered thereunder. If the member does not so stipulate the non-member shall not be bound to maintain any margin. Whether or not the member so stipulates the non-member shall be bound in the resultant Hedge Contract to pay in cash to the member in Bombay the differences between the contract price and the market price arising against the non-member owing to fluctuations of the market as and when they arise.

By-law 192. If an Option Contract does not contain a basic contract which would, at the date of such Option Contract, be permissible under the By-laws as a valid Hedge Contract, such option contract shall be void and is prohibited.

By-law 193. The premium on an Option Contract shall be calculated on a fixed price per candy and shall not be subject to any deduction for interest.

By-law 194. In the case where all the parties to the Option Contract are members the premium under the Option Contract shall be paid and received through the Clearing House in the periodical settlement immediately following the date of the Option Contract.

By-law 195. For the purpose of all settlements a *teji-mandi* Option Contract shall (except as regards the premium) be deemed to consist of two distinct contracts, namely a *teji* Option Contract and a *mandi* Option Contract and differences shall be paid and received accordingly.

By-law 196 (1). In the case of Option Contracts between members differences shall be payable and receivable at each settlement through the Clearing House.

(2) In the case of every Option Contract between a member and a non-member By-laws 130 to 166 (inclusive) shall not apply and the parties may agree to pay and receive differences at each settlement as in the case of Option Contract between members (except that the same shall not be paid or received through the Clearing House), with or without a proviso to the effect that margin may at time be called for or may agree that a margin in cash be maintained until the option is exercised or until the option due date whichever shall be earlier or may enter in the written contract, such other arrangement regarding differences as they shall agree upon.

(3) In the case of Option Contracts between members coming under settlement for the first time differences shall be calculated between the basic contract rate and the settlement rate. In the case of Option Contracts coming under subsequent settlements, differences shall be calculated between settlement rates.

Provided that for the purpose of determining differences in all settlements before a date on which the option is exercised or the option due date whichever shall be earlier the extent to which settlement rates are below the basic contract rate, shall be excluded in respect of a *teji* Option Contract and the extent to which they are above the basic contract rate shall be excluded in respect of a *mandi* Option Contract.

Explanatory Note.

The essential idea is that differences in Option Contracts shall be calculated in exactly the same way as in Hedge Contract settlements with this exception that, up to the exercise of the option or the option due date whichever shall be earlier, settlement rates to the extent to which they are below the basic contract rate will be disregarded in a *teji* option and the reverse in a *mandi* option. The result is that the seller of an option is always the first to pay a difference and that up to the exercise of the option or the option due date whichever shall be earlier, the buyer can never pay more (though he can pay less) than he has received.

(4) The buyer of an Option Contract entered into between members and the buyer of an Option Contract entered into between a member and a non-member in which it is stipulated that differences shall be payable and receivable at each settlement, shall in the event he does not validly exercise his option repay to the seller at the settlement next succeeding the option due date the amount of all differences received by him from the seller under deduction of all differences paid by him to the seller.

By-law 197. The buyer of an option shall be entitled to exercise it not later than 1 p.m. on the option due date. The buyer whether he be a member or a non-member must intimate the exercise of his option to the seller of the option in such manner and in such form as the Board may from time to time by rules in this behalf prescribe.

By-law 198. On the due exercise of an option, if the resultant Hedge Contract is a contract by which the buyer of the option is the purchaser of cotton the seller of the option shall pay to the buyer thereof $\frac{1}{2}$ per cent. as brokerage and if the resultant contract is a contract by which the buyer of the option is the seller of cotton the buyer of the option shall pay to the seller thereof $\frac{1}{2}$ per cent. as brokerage.

By-law 199. The Board may from time to time by notice or notices to be published on the Notice Board permit and/or prohibit entering into and/or trading in Option Contracts (a) for such season or period definite or indefinite at or during such hour or hours of any day or days as the Board may deem advisable and/or (b) in respect of any description or descriptions or class or classes of cotton or crop and/or (c) in respect of any delivery or deliveries and/or (d) in respect of any kind or kinds of Option Contracts. The Board may also in like manner from time to time in the case of Option Contracts generally or of any kind or kinds fix or prescribe option

due dates and/or the maximum and/or minimum premium rates and basic contract rates and/or the duration of Option Contracts generally or of any particular kind provided that the Board may at their discretion ordinarily permit option transactions of monthly duration. The Board may from time to time by notice or notices to be published on the Notice Board extend, alter, modify, amend or cancel any notice or notices that may be issued and published under this By-law. The Board may also from time to time frame rules and prescribe Forms (including Contract Forms), and publish the same on the Notice Board provided such rules and Forms are not inconsistent with the By-laws from time to time in force relating to option business, in respect of Option Contracts and trading in options and may from time to time add to, alter, modify, amend or cancel any of such rules or Forms. Every member shall comply with the notice rules and Forms from time to time in force under this By-law.

Provided however that the option due date in an Option Contract containing a Basic Contract for a particular delivery shall not be fixed by the Board, when exercising the power hereby given to fix or prescribe option due dates, so as to fall within the delivery period of such contract.

By-law 200. All Option Contracts or trading or transactions in options save and except those entered into in accordance with and to the extent and in the manner permitted under the By-laws and any notices and rules that may from time to time be in force thereunder shall be void and are prohibited. Any member either directly or indirectly entering into engaging or concerning himself in any Option Contract or any trading or transaction in options in contravention of any of the provisions of the By-laws and/or of any of such notices and/or rules as aforesaid or failing, refusing or omitting to comply with or committing any breach of any of the provisions of the By-laws and/or notices and/or rules as aforesaid shall render himself liable to be dealt with under the disciplinary By-laws.

By-law 201. No member shall enter into or trade in an Option Contract not permitted by the By-laws of the Association.

By-law 202. The Board may appoint an Option Sub-Committee consisting of not less than five of its members with power to such Sub-Committee to appoint its Chairman and may depute to such Sub-Committee all or any of the rights, powers, discretions, duties and functions of the Board in relation to Option Contracts on such terms as the Board may from time to time direct. Notwithstanding the appointment of the Option Sub-Committee the Board shall be at liberty from time to time and at all times to exercise and perform all or any of the rights, powers, discretions, duties and functions of the Board in relation to Option Contracts and/or to override, alter, modify, amend or cancel in like manner any notice or rule which may have been issued or framed and published by the Option Sub-Committee and/or to suspend or postpone for any length of time the appointment or functioning of the Option Sub-Committee and/or to curtail, modify, or extend any of the right, powers, discretions and functions of the Option Sub-Committee. Every member of the Option Sub-Committee shall hold office till the end of the official year for which he is appointed, unless his appointment is terminated earlier by the Board (as the Board shall be at liberty to do), but he shall be eligible for re-appointment. The Board shall fill vacancies as they may occur in the Option Sub-Committee. Three members of the Option Sub-Committee shall form a quorum at its meetings. Every matter on which there is a difference of opinion amongst members of the Option Sub-Committee shall be decided by a majority of votes of those present and voting at any of its meetings and in the event of an equality of votes the Chairman shall have a casting vote.

FORM No. 8.

FORM OF OPTION CONTRACT BETWEEN A MEMBER AND A NON-MEMBER

(To be used only when the member is the Seller of the Option).

No.....Contract Note.....

No.....Contract Note.....

From Messrs.....
(Seller of Option).From Messrs.....
(Purchaser of Option).To.....
(Purchaser of Option).To.....
(Seller of Option).

In consideration of the sum of
Rs.....which you
undertake to pay on demand to $\frac{me}{us}$
have paid

$\frac{I}{we}$ have sold to you subject to the
By-laws of the East India Cotton
Association, Limited, the right at your
option to $\frac{buy\ from}{sell\ to}$ $\frac{me}{us}$ cotton
buy from or sell to

as hereinafter mentioned and on the
basis of a contract (hereinafter called
"the Basic Contract") and the parti-
culars and terms whereof are mentioned
in clauses (a) to (d) hereunder, viz. :—

(a) Cotton Full
pressed Bales of.....
Cotton of Hedge Contract No.....

(b) Price : Rs.....per
candy of 784 lbs. ;

(c) Delivery : in Bombay from....
.....to
.....against cash ;

(d) The Basic Contract shall in all
respects be deemed to be a Hedge
Contract subject to the By-laws of the
East India Cotton Association,
Ltd., and as if entered into in the
appropriate form of contract in the
appendix to the said By-laws.

2. The option shall be exercisable
by you in Bombay not later than
1 p.m. on the.....day of
.....according to the said
By-laws.

3. In the event of your not inti-
mating to me/us in Bombay by
1 p.m. on the said date the exercise
of your option you shall be deemed not
to have exercised the same.

In consideration of the sum of
Rs..... $\frac{I}{we}$
undertake to pay on demand to you
have paid

$\frac{I}{we}$ have purchased from you subject
to the By-laws of the East India
Cotton Association, Limited, the right
buy from
at $\frac{my}{our}$ option to $\frac{sell\ to}$

buy from or sell to
you cotton as hereinafter mentioned
and on the basis of a contract (herein-
after called "the Basic Contract")
and the particulars and terms whereof
are mentioned in clauses (a) to (d)
hereunder, viz. :—

(a) Cotton Full
pressed Bales of.....
Cotton of Hedge Contract No.....

(b) Price : Rs.....per
candy of 784 lbs.,

(c) Delivery : in Bombay from....
.....to
.....against cash ;

(d) The Basic Contract shall in all
respects be deemed to be a Hedge
Contract subject to the By-laws of the
East India Cotton Association, Ltd.,
and as if entered into in the appropriate
form of contract in the appendix to
the said By-laws.

2. The option shall be exercisable
by me/us in Bombay not later than
1 p.m. on the.....day of
.....according to the
said By-laws.

3. In the event of my/our not inti-
mating to you in Bombay by 1 p.m.
on the said date the exercise of
my/our option I/we shall be deemed
not to have exercised the same.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

*5. On the due exercise by you of this option you will pay to me/us and maintain a margin of.....

6. If I/we do not receive from you the premium when demanded by me/us, I/we shall be at liberty to close all your transactions with me/us wholly or partly without consulting you and at your risk, any time or other indulgence given to be for your account and risk.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

*5. On the due exercise by me/us of this option I/we will pay to you and maintain a margin of.....

6. If you do not receive from me/us the premium when demanded by you, you shall be at liberty to close all my/our transactions with you wholly or partly without consulting me/us and at my/our risk, any time or other indulgence given to be for my/our account and risk.

Bombay, dated the day of

Seller of Option.

Purchaser of Option.

*See By-law 191.

*See By-law 191.



FORM No. 9.

FORM OF OPTION CONTRACT BETWEEN A MEMBER AND A NON-MEMBER.

(To be used only when the member is the buyer of the option.)

No.....Contract Note.....

From Messrs.....
(Purchaser of Option).To.....
(Seller of Option).

In consideration of the sum of Rs.....which I undertake to pay to you $\frac{I}{we}$ have purchased from you subject to the By-laws of the East India Cotton Association, Limited, the right at $\frac{my}{our}$ option to $\frac{buy from}{sell to}$ you cotton as $\frac{buy from}{sell to}$ hereinafter mentioned and on the basis of a contract (hereinafter called "the Basic Contract") and the particulars and terms whereof are mentioned in clauses (a) to (d) hereunder, viz. :—

(a) Cotton : Full pressed Bales of.....
Cotton of Hedge Contract No.....

(b) Price : Rs.....per candy of 784 lbs. ;

(c) Delivery : in Bombay from to against cash ;

(d) The Basic Contract shall in all respects be deemed to be a Hedge Contract subject to the By-laws of the East India Cotton Association, Ltd., and as if entered into the appropriate form of contract in the appendix to the said By-laws.

2. The option shall be exercisable by me/us in Bombay not later than 1 p.m. on the.....day of according to the By-laws.

3. In the event of my/our not intimating to you by 1 p.m. on the said date the exercise of my/our option I/we shall be deemed not to have exercised the same.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

No.....Contract Note.....

From Messrs.....
(Seller of Option).To.....
(Purchaser of Option).

In consideration of the sum of Rs.....which you undertake to pay to $\frac{me}{us}$ $\frac{I}{we}$ have sold to you subject to the By-laws of the East India Cotton Association, Limited, the right at your option to $\frac{buy from}{sell to}$ $\frac{me}{us}$ cotton as $\frac{buy from}{sell to}$ hereinafter mentioned and on the basis of a contract (hereinafter called "the Basic Contract") and the particulars and terms whereof are mentioned in clauses (a) to (d) hereunder, viz. :—

(a) Cotton : Full pressed Bales of.....
Cotton of Hedge Contract No.....

(b) Price : Rs.....per candy of 784 lbs. ;

(c) Delivery : in Bombay from to against cash ;

(d) The Basic Contract shall in all respects be deemed to be a Hedge Contract subject to the By-laws of the East India Cotton Association, Ltd., and as if entered into the appropriate form of contract in the appendix to the said By-laws.

2. The option shall be exercisable by you in Bombay not later than 1 p.m. on the.....day of according to the By-laws.

3. In the event of your not intimating to me/us by 1 p.m. on the said date the exercise of your option you shall be deemed not to have exercised the same.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

*5. A margin of Rs.
(or Rs. per 50 bales)
will be paid by you to me/us and
maintained with me/us until the date
on which the option is exercised or
the option due date whichever is
earlier.

*6. We shall pay and receive
differences at each settlement as in
the case of an option contract between
members except that such payments
and receipts shall be made direct
between us provided however that in
lieu of this arrangement you agree
to pay to me/us on demand a margin
of Rs. (or Rs.
per 50 bales).

*7. You will on demand (or such
other arrangement as the parties shall
have agreed upon)

†8. On the due exercise by me/us
of this option you will pay to me/us
and maintain a margin of

9. If I/we do not receive from you
margin in terms of this contract when
demanded by me/us, I/we shall be at
liberty to close all your transactions
with me/us wholly or partly without
consulting you and at your risk,
any time or other indulgence given to
be for your account and risk.

Bombay, dated the day of

Purchaser of Option.

**See By-law 196 (2). Either strike
out clauses 5, 6 and 7 or strike out two
of them and fill in the remaining one.
If clause 6 is retained the proviso
therein may be struck out if the parties
shall so agree.*

† See By-law 191.

*5. A margin of Rs.
(or Rs. per 50 bales)
will be paid to you by me/us and
maintained with you until the date
on which the option is exercised or
the option due date whichever is
earlier.

*6. We shall pay and receive
differences at each settlement as in
the case of an option contract between
members except that such payments
and receipts shall be made direct
between us provided however that in
lieu of this arrangement I/we agree
to pay to you on demand a margin
of Rs. (or Rs.
per 50 bales).

*7. I/we shall on demand (or such
other arrangement as the parties shall
have agreed upon)

†8. On the due exercise by you
of this option I/we will pay to you
and maintain a margin of

9. If you do not receive from me/us
margin in terms of this contract when
demanded by you, you shall be at
liberty to close all my/our transactions
with you wholly or partly without
consulting me/us and at my/our risk,
any time or other indulgence given to
be for my/our account and risk.

Seller of Option.

**See By-law 196 (2). Either strike
out clauses 5, 6 and 7 or strike out two
of them and fill in the remaining one.
If clause 6 is retained the proviso
therein may be struck out if the parties
shall so agree.*

† See By-law 191.

FORM No. 10.

FORM OF OPTION CONTRACT BETWEEN MEMBERS.

No.....Contract Note.....

From Messrs.....

(Seller of Option).

To.....

(Purchaser of Option).

In consideration of the sum of Rs.....which you undertake to pay to my credit through the Clearing House of the East India Cotton Association, Ltd., on the first settlement day following the date hereof I/we have sold to you subject to the By-laws of the East India Cotton Association, Ltd., the right at

your option to $\frac{\text{buy from}}{\text{sell to}}$ $\frac{\text{me}}{\text{us}}$
buy from or sell to

cotton as hereinafter mentioned and on the basis of a contract (hereinafter called "the Basic Contract") and the particulars and terms whereof are mentioned in clauses (a) to (d) hereunder, viz. :—

(a) Cotton : Full pressed Bales of Cotton of Hedge Contract No.....

(b) Price : Rs..... per candy of 784 lbs. ;

(c) Delivery : in Bombay from to against cash.

(d) The Basic Contract shall in all respects be deemed to be a Hedge Contract subject to the By-laws of the East India Cotton Association, Ltd., and as if entered into in the appropriate Form of contract in the appendix to the said By-laws.

2. The option shall be exercisable by you in Bombay not later than 1 p.m. on the.....day of according to the said By-laws.

3. In the event of your not intimating to me/us in Bombay by 1 p.m. on the said date the exercise of your option you shall be deemed not to have exercised the same.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

Bombay, dated the day of

Seller of Option.

No.....Contract Note.....

From Messrs.....

(Purchaser of Option).

To.....

(Seller of Option).

In consideration of the sum of Rs.....which I/we undertake to pay to your credit through the Clearing House of the East India Cotton Association, Ltd., on the first settlement day following the date hereof I/we have purchased from you subject to the By-laws of the East India Cotton Association, Ltd., the right at

my/our option to $\frac{\text{buy from}}{\text{sell to}}$ $\frac{\text{me}}{\text{us}}$
buy from or sell to

you cotton as hereinafter mentioned and on the basis of a contract (hereinafter called "the Basic Contract") and the particulars and terms whereof are mentioned in clauses (a) to (d) hereunder, viz. :—

(a) Cotton : Full pressed Bales of Cotton of Hedge Contract No.....

(b) Price : Rs..... per candy of 784 lbs. ;

(c) Delivery : in Bombay from to against cash.

(d) The Basic Contract shall in all respects be deemed to be a Hedge Contract subject to the By-laws of the East India Cotton Association, Ltd., and as if entered into in the appropriate Form of contract in the appendix to the said By-laws.

2. The option shall be exercisable by me/us in Bombay not later than 1 p.m. on the.....day of according to the said By-laws.

3. In the event of my/our not intimating to you in Bombay by 1 p.m. on the said date the exercise of my/our option I/we shall be deemed not to have exercised the same.

4. In the event of any dispute arising between you and me/us out of or in relation to this transaction the matter shall be referred to arbitration in the manner provided in the said By-laws.

Purchaser of Option.

APPENDIX IV.

SUBJECT 17.—*Summary of Proceedings of the Local Sub-Committee.*

Four meetings of the Local Sub-Committee were held since the last meeting of the Committee held in February 1935. Mr. H. B. Moore having retired, his place on the Sub-Committee was taken by Mr. M. Durutti, and on the latter's resignation Mr. A. A. Sarantides took his place.

The Sub-Committee considered the proposal of the Director of Agriculture, Bombay Presidency, that the northern boundary of the Nerbudda-Mahi Zone, should be the Mahi river only, which would form the natural boundary of the zone, instead of as at present the Mahi river or the northern boundary of the Rewa Kantha Agency, whichever is farther north. With the concurrence of the East India Cotton Association the Sub-Committee agreed with the Director's proposal.

The Sub-Committee considered reports received from the trade that large quantities of short staple *kapas* and ginned cotton were being imported by rail from Rajputana into Central India and the adjoining districts of the Central Provinces for purposes of illicit mixing with the superior local cotton, thus seriously menacing the reputation of the superior cotton tracts. So far as the imports into the Central Provinces were concerned, a report was made to the Director of Agriculture, Central Provinces, and he has recommended to the Local Government that the districts of Nimar and Hoshangabad should be included in the protected area notified under the Cotton Transport Act. As regards imports into the Central India States, the Sub-Committee decided that the Government of India should be moved to ask the States concerned to enact legislation on the lines of the Cotton Transport Act, and the Indore State to extend the application of its Act so as to include all cotton imported into the States and not confine it only to *Deshi-Mewadi* cotton.

Complaints regarding incorrect marking of bales, malpractices of mixing seed, false packing, and watering of cotton, and the action taken thereon were considered and recorded by the Sub-Committee.

Other subjects which engaged the attention of the Sub-Committee were:—

- (1) Resolution of the Bombay Government regarding the formation of a compact block of long staple cotton in Sind,
- (2) Licensing of gins and presses,
- (3) Representation of the Committee at the International Cotton Congress at Milan and Rome, and
- (4) Cotton Options—Proposed additions and amendments to the bye-laws of the East India Cotton Association.

These subjects are dealt with separately on the agenda of the full Committee.

APPENDIX V.

SUBJECT 19.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Cotton Forecast Improvement Sub-Committee met at 3 p.m. on Saturday, the 17th August 1935.

The investigations into the quantity of cotton consumed for such domestic purposes as the making of mattresses, quilts, padded garments, wicks, cordage, etc., and hand-spinning in the Bombay Presidency, Baroda, Sind, the Punjab, United Provinces, Bengal, the Central Provinces and Berar, Hyderabad State and Madras Presidency have been completed and reports received from all these except Hyderabad State. Pending the receipt of the Hyderabad Report and the consideration of the question from an all-India aspect, the Sub-Committee examined the detailed reports and made the following recommendations:—

United Provinces.—The grouping of districts adopted in this Report for the purposes of calculation of total consumption requires further consideration, and hence the attention of the Statistician to the United Provinces Government may be drawn to this.

Bengal.—The enquiry as conducted, the data collected and the results obtained are not very helpful. The Director of Agriculture, Bengal, should therefore be invited to give his opinion as to how he proposes to remedy these defects and obtain the required data.

In the meantime the Sub-Committee recommends that the Director of Agriculture, Bihar and Orissa, should be requested to conduct an enquiry in that province. A sum of Rs. 1,200 may be sanctioned for this purpose. It would be enough if one district in Bihar proper, say, Patna or Gaya or Bhagalpur in North Bihar, is investigated.

Madras.—An enquiry may be made of the Director of Agriculture, Madras, to find out what happens to the cotton brought into the non-cotton-growing districts, as this information is not furnished in the Report.

Sind.—The Chief Agricultural Officer has agreed to examine the data once again to ascertain if the total village consumption of 695 bales arrived at is correct, and to furnish, if possible, *per capita* consumption instead of *per family* consumption.

The Sub-Committee noted the progress made in giving effect to the recommendations made by it on the *post-mortem* examination of 1933-34 cotton forecasts considered at its previous meeting, and recorded the statement showing "the approximate commercial crop" re-drafted in accordance with the recommendations then made by it.

The Sub-Committee considered and approved the first Progress Report and the programme of work of the Bombay Cotton Forecast Improvement Scheme submitted by the Director of Agriculture. A point of considerable importance raised in this report is that the statistics pertaining to receipts of loose (unpressed) cotton at mills, at present furnished on a voluntary basis by mills in the major cotton growing provinces of Bombay, Madras, United Provinces, Central Provinces and the Punjab, are neither complete nor reliable. The Sub-Committee feels that this defect can be remedied without much difficulty if the return, which the mills have to submit every month under Section 6 of the Indian Cotton Cess Act, is suitably amended. A copy of the prescribed form* is attached. What now happens is that the total cotton, whether pressed or unpressed, is entered against item (d) and its equivalent in bales is shown in item (e). If item (d) can therefore be split up as follows:—

"(d) Number of lbs. avoirdupois of Indian cotton consumed or brought under process in the mill during the month.....19.....

(1) Pressed cotton _____

(2) Unpressed cotton _____

Total .. _____

the required information for the whole of British India would be readily forthcoming. The Sub-Committee, therefore, strongly recommends that the Government of India may be moved to make this amendment in the return.

APPENDIX VI.

SUBJECT 20.—*Report of the Special Sub-Committee on Wider Markets for Indian cotton.*

The Special Sub-Committee to consider the question of a wider market for Indian cotton met at 11 a.m. on Sunday, the 18th August 1935.

The Sub-Committee recommends that, in addition to the efforts now being made to collect statistics relating to the production of coarse yarns in the Continental countries, arrangements might be made to obtain the same information for China and Japan.

As the Sub-Committee is informed that the Government of Ceylon have recently offered to allow the import of Empire cottons, free of duty, provided the mill industry of Ceylon agreed to take all the cotton produced locally, it suggests that the Secretary, Imperial Council of Agricultural Research, may be requested to verify the correctness of this statement.

The Sub-Committee notes from a memorandum furnished by the Commercial Counsellor to His Majesty's Embassy at Moscow that Russia is now practically independent of foreign supplies of raw cotton except in years of crop failure, when a few thousand tons of American and Persian cottons are taken. It would be worth while to ascertain from the Soviet organisation controlling cotton imports and exports whether any part of this Persian cotton could be replaced by Indian cotton.

In pursuance of the recommendation made by the Sub-Committee at its last meeting, the Director General of Commercial Intelligence and Statistics was good enough to supply the following information regarding the internal consumption of Indian cotton in China and the chances of the specific duty now being levied in China being converted into an *ad valorem* duty :—

(Imports of raw cotton into China from British India and Burma during 1932 and 1933—In bales of 400 lbs.).

				1932.	1933.
British India	..	..	..	142,005	197,315
Burma	..	..	..	9,205	20,581
				151,210	217,896

According to Indian Sea-borne Trade Return exports during 1932 and 1933 were 117,309 and 236,938 bales respectively.

The *ad valorem* incidence of the import duty in China is only 9.87 per cent. of the average declared export value of cotton, and as this rate does not compare very unfavourably with the rates of duty levied by India herself, a representation on this subject to the Government of India would not be worth while.

As decided by the Sub-Committee at its previous meeting a strong representation has since been sent to the Government of India regarding the unsatisfactory position of Indian cotton exports to Germany.

The Sub-Committee is glad to report that the Lancashire Indian Cotton Committee are fully alive to the importance of increasing the consumption of Indian cotton in subsidiary industries, experimenting with mixings of Indian and American cottons, and the use of Indian cotton in the woollen industry. It is however recommended that the Lancashire Indian Cotton Committee might be requested to arrange for definite trials with short staple Indian cotton in the woollen industry at Torrion, near Leeds.

The Sub-Committee considered a suggestion that the Shirley Institute might be requested to prepare its publications on Indian cotton in consultation with the Committee. The Sub-Committee does not think this is necessary. All that is required is that Dr. Nazir Ahmad should put himself into informal contact with Dr. Turner, and offer to furnish in consultation with expert trade members any up-to-date and useful information that might be required by Dr. Turner for his publications on the characteristics of Indian cotton. As the Sub-Committee understands that the East India Cotton Association has already prepared a note on the characteristics of Indian cotton, the Sub-Committee recommends that the possibility of issuing a sort of a guide to Indian cotton as a combined publication of the East India Cotton Association and the Indian Central Cotton Committee should be examined.

The Sub-Committee also considered and approved, subject to the following remarks, the attached report* of the Agricultural Research Sub-Committee on the possibility of growing long staple cotton in the present short staple cotton areas of India :—

- (1) In giving effect to its general policy of replacing short staple cotton with long and medium stapled cotton the Committee should not lose sight of its depleting finances. Attention should be concentrated only in a

few localities to introduce new strains and spread them over at least 80.90 per cent. of the area so that these localities may serve as actual demonstrations of what the Committee could do if it has sufficient funds. If this policy proves a success, the Committee might without difficulty approach the Government of India for the increase of cotton cess.

- (2) Mr. Hutchinson should be asked to make a comparative study of Indian and Persian *herbaceum* cottons with a view to finding a type suitable for the Dholeras tract.
- (3) Under item 2(b) in the report the following words should be added :—
“ A new strain B. D. 8, has been produced and its distribution commenced.”

APPENDIX VII.

SUBJECT 21.—*Technological Research—Summary of Progress Report (No. 24) of the Director, Technological Laboratory.*

The present report gives an account of the work done at the Technological Laboratory between 1st November 1934 and 31st May 1935. This account is divided into 5 sections as follows :—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. SPINNING LABORATORY.

The following table gives in a summary form the numbers of samples of various types received during the period under review. Figures for the corresponding period of last year are also given for purposes of comparison :—

TABLE I.

	1st November 1934 to 31st May 1935.	1st November 1933 to 31st May 1934.
Agricultural Departments	246	200
Standard cottons	18	15
Trade samples	32	32
Fibre Test Samples	62	22
Yarn Test Samples	7	2
Special Test Samples	69	40
Total ..	434	311

It will be seen from the above table that, as compared with the corresponding period of last year, there has been a substantial increase amounting to 40 per cent. in the number of samples received for tests at the Technological Laboratory. The total number of samples received for tests during the 7 months under review now stands at the high figure of 436, which establishes a new record. The increase is noticeable in practically all types of samples but is most pronounced in the case of samples received from the Agricultural Departments as well as the samples submitted for fibre and yarn tests. The samples on which yarn tests are performed are sent exclusively by the mills and the tests on these samples are carried out on payment of certain fees. It will be seen from the above table that, as against two samples in the corresponding period of last year, no less than 7 samples were received for yarn tests during the period under review.

The number and distribution of samples, lots and counts spun during the 7 months under review are given in Table II, together with the figures for the corresponding period of last year.

TABLE II.

	Samples.		Lots.		Counts.	
	1st Nov- ember 1934 to 31st May 1935.	1st Nov- ember 1933 to 31st May 1934.	1st Nov- ember 1934 to 31st May 1935.	1st Nov- ember 1933 to 31st May 1934.	1st Nov- ember 1934 to 31st May 1935.	1st Nov- ember 1933 to 31st May 1934.
Bombay	44	70	44	70	133	212
Punjab	20	8	20	8	63	24
United Provinces..	7	6	7	6	21	18
Madras	..	44	..	44	..	133
Central Provinces ..	4	9	4	9	14	27
Miscellaneous	49	68	49	68	142	207
Total	124	205	124	205	373	621
Standard	11	15	22	30	122	168
Trade Tests	25	32	25	32	74	88
Technological Tests ..	40	87	62	90	336	249
Grand Total	200	339	233	357	905	1,126

It will be seen from the above table that the number of samples, lots and counts spun during this period shows a decline as compared with the corresponding period of last year. This is due to the fact that for nearly 6 weeks the processing of samples had to be slowed down in order to allow the blow-room machinery to be overhauled, involving the dismantling of part of the old plant and the erection of new machines. Furthermore, in the Yarn Testing Section, which was also enlarged during the period under review the testing of samples had to be retarded in order to make provision for the extension of the room and the re-arrangement of the apparatus.

The results of the various tests carried out at the Laboratory were described in Test Reports which were sent to the Agricultural Officers concerned or to the suppliers of the samples. The following table gives the distribution of such reports issued during the period under review together with the figures for the corresponding period of last year :—

TABLE III.

	1st November 1934 to 31st May 1935.	1st November 1933 to 31st May 1934.
Spinning Test Reports	57	59
Fibre Test Reports	11	6
Yarn Test Reports	4	1
Total	72	66

It will be seen from this table that notwithstanding the extra work involved in the extensions the usual activity of the Laboratory was maintained in the matter of completing the tests and furnishing the reports to the suppliers of the samples.

During the period under review 72 reports were issued as against 66 for the corresponding period of last year. The increase is especially noticeable in respect of fibre test and yarn test reports; the latter being furnished direct to the mills supplying the samples.

Among the samples on which tests have been completed and on which reports have been issued, there are some which either form part of the investigations undertaken at the Laboratory or contain some special features of interest. These will now be described briefly:—

(1) *Deterioration of cotton stacked in open plinths at Karachi.*—It will be remembered that this investigation was begun in February 1933 at the request of the Karachi Cotton Association with a view to ascertaining the extent of deterioration which takes place in different types of cottons received in the Karachi market when these are subsequently stacked in open plinths in the whole yard. This investigation has been in progress since that date and samples drawn at regular intervals from the 18 bales purchased for the purpose of this experiment have been subjected to fibre and spinning tests. During the period under review these tests were completed and a detailed report, discussing the various aspects of this problem, has been prepared. This report forms a separate subject on the Agenda of the Technological Research Sub-Committee meeting.

(2) *Spinning Tests on pre-humidified bales.*—These tests have already been in progress for some time past and are being carried out on two different types of cotton, viz., Amraoti and Broach (Palej). In the case of each cotton, three or four bales, which were pre-humidified to different degrees at the time of pressing, were obtained. Samples were drawn from these bales at regular intervals and subjected to moisture, fibre and spinning tests. The tests on the Amraoti bales are complete, but it has not been found possible to complete all the tests on the Broach bales.

(3) *Storage of kapas prior to ginning.*—In order to find out whether the storage of *kapas* prior to ginning has any effect, as is sometimes alleged, in maturing the fibres or making them soft and pliable as a result of the diffusion of oil from the seed, tests were made on samples of *P.A. 4F*, *P.A. 289F* and *Mollisoni* cottons. These samples were obtained from the same *kapas* heap from which one portion was ginned immediately after picking and the other after storage for 4 weeks. The results of various tests carried out on these samples have been described in Technological Bulletin, Series B, No. 19.

(4) *Deterioration of Broach cotton with lapse of time.*—This investigation was undertaken at the request of the East India Cotton Association to find out the nature and extent of deterioration which takes place in Broach cotton when it is stored for some time. In addition to the usual fibre and spinning tests, small samples drawn at regular intervals from different parts of the bale were also tested for damage due to mechanical causes or growth of fungi and bacteria. The last set of samples from the bale stored for the purpose of this investigation has been drawn and it is hoped that this investigation will shortly be completed.

(5) *Tests on N.T. 38 (38F) and N.T. 43 (43F).*—It will be recalled that in 1931-32 when the question of the cotton policy in Gujerat was under consideration by the Committee, a large number of samples of 1027 *A.L.F.* and 14 Long Boll were tested at the Laboratory to obtain the necessary data regarding the fibre-properties and the spinning performance of these two cottons, grown in different talukas of Gujerat. A similar situation arose this year in the Punjab, where, of the several American strains which have been evolved at Lyallpur, two strains, called *N.T. 38 (38F)* and *N.T. 43 (43F)*, gave the best results. It was accordingly desired to ascertain the spinning performance of these two varieties, when grown in different parts of the Punjab so as to enable the Agricultural Department to decide which of the two is suitable for cultivation on a large scale in a particular area. Therefore, about 20 samples of these two cottons were received and tested and reports containing the results of these tests, were sent to the Director of Agriculture, Punjab.

(6) *Uganda cottons.*—It will be remembered that during the past few years the Laboratory has carried out tests on improved varieties of Uganda cotton evolved by the Senior Botanist, Department of Agriculture, Bukalasa Experiment Station, P. O. Bombo, Uganda. This year 8 samples were received and tested at the Laboratory and as usual the results were discussed in a spinning test report, a copy of which was forwarded to the Senior Botanist, Uganda.

Furthermore, samples of *A.R. Kampala*, *A.R. Busoga* and *A.R. Jinja* representing the fair average quality of the season have been received since 1930 from the East India Cotton Association, Bombay, for determination of fibre-length in order to enable the Association to lay down standards of length for these cottons. During the period under review the last batch of these samples was received and a final report, comprising the results of these tests, was sent to the East India Cotton Association. This report was considered by their Special Appeal Committee on African cotton on 13th June 1935.

Field Experiments.—A fairly large number of samples have been received in connection with the various field experiments undertaken by the Cotton Breeders, such as the amount and frequency of irrigation, the application of different types of manures and the rotation of crops. Samples in connection with the amount and frequency of irrigation were received from Sakrand, Padegaon, Coimbatore, Lyallpur and Ganganagar, while samples with different doses of manure were received from Sakrand and Lyallpur. The rotation experiments were carried out at Coimbatore. Altogether, 44 samples were received in connection with these field experiments and out of these, tests have been completed on 6 samples.

Samples from private mills.—As in the past, the Laboratory has continued to undertake tests, whenever possible, on samples of cotton and yarn submitted by various mills. During the period under review 8 samples were received for spinning tests, 7 samples for yarn tests and 5 samples for fibre tests.

RESEARCH LABORATORY.

Fibre Testing Section.—This section has been fully occupied with the work of carrying out fibre tests on such samples either received for spinning tests or for fibre tests. The pressure on the resources of this Section has been even greater than in the past as one of the Junior Testers, Mr. K. S. Marar, was transferred to Sakrand, to take up the post of Technological Assistant in Sind while another Junior Tester, Mr. K. G. Deo, was sent to Lyallpur to take over temporarily the duties of the Technological Assistant while the newly appointed incumbent of the post received his training at the Laboratory. During the period under review the total number of samples on which fibre tests were performed in this Section amounted to 266.

Mr. Hari Rao, in addition to supervising the work of this Section, has continued his investigation on the effect of twist on the strength and extension of cotton fibre. Mr. Hari Rao has now completed these tests on 4 Indian cottons and is extending them to a fifth cotton. I should perhaps mention here that these tests are of a highly time-absorbing nature, as the insertion of a considerable degree of twist in each fibre takes a fairly long time while a large number of such fibres has to be tested in order to obtain a reliable mean.

Physics Section.

Mr. R. S. Koshal continued the analysis of the effect of rainfall and temperature on the fibre-properties and spinning value of a cotton. He has now completed this investigation in respect of several of the standard Indian cottons and has obtained extremely interesting results. It has been found, for instance, that in cottons such as *C.A. 9* and *P.A. 4F*, which in some seasons gave widely divergent values of the highest standard warp counts as predicted from the fibre-properties and as found from the actual test, the inclusion of the rainfall factor brought about a close agreement between the predicted and the actual values. Again, in the case of the three Madras cottons, *Nandyal 14*, *Karunganni C7* and *Hagari 1*, it was found that if length alone was used for predicting the spinning value of a cotton, there were 9 cases in which the differences between the predicted and the actual values amounted to more than 15 per cent., but that if the rainfall factor was also taken into consideration, only 2 cottons showed a disparity in excess of 15 per cent. These and other similar results bring out the importance of taking the rainfall factor into account in assessing the spinning value of a cotton from its fibre-properties. This investigation is now nearly complete and an account of it will be published in due course. Mr. Koshal has also undertaken a study of the bundle strength of cotton fibres. Hitherto the strength of a cotton has been determined by tests on single fibres. It has been found that the values of single fibre-strength bear no simple relationship to the spinning performance of a cotton. Among the many reasons which have been advanced to explain the absence of a simple relationship between fibre-strength and yarn-strength, the most important ones are those

which attribute it to the fact that, in the yarn, bundles of fibres are subjected to tension. As a result the weak places in the fibres are reinforced, to some extent, by the strong places in the neighbouring fibres. It was felt, therefore, that fresh light would be thrown on the problem of the relationship between fibre-strength and yarn-strength if the strength of fibres were measured in a condition somewhat similar to that in which they actually exist in the cross section of the yarn. This investigation is in progress.

Mr. C. Nanjundayya has continued the investigation of the rates of absorption of moisture by short, medium and long staple cottons at different humidities. It should be mentioned here that, in order to carry out this investigation, an apparatus has been designed at the Laboratory which makes it possible to maintain automatically any humidity between 30 per cent. and 80 per cent. R.H. for any length of time. This apparatus will also be found useful in other investigations of a similar type where it is proposed to keep the cotton fibre or yarn at any desired humidity for any period of time. *Mr. Nanjundayya* in collaboration with *Dr. K. R. Sen*, has now undertaken an investigation on the properties of the fibres at the point of fracture of yarn. This investigation is in progress.

Dr. K. R. Sen joined the staff of the Laboratory on the 17th May 1935 and, as mentioned in the preceding paragraph, has undertaken the investigation in collaboration with *Mr. Nanjundayya*.

Chemistry Section.

Mr. D. L. Sen completed the determination of the wax content of the standard cottons and is now continuing his investigation on the absorption of dyes by these cottons. The absorption of dyes is studied in the natural state of the cotton and after scoured and mercerised by swelling in caustic soda. He has so far examined the absorption of two dyes by all the standard cottons and of another two dyes by six of these cottons. He has furthermore carried out moisture tests on 17 samples of which an account will be given later.

Microscopy Section.

Mr. A. N. Gulati has completed his investigation on the bacterial and fungoid growth in connection with the deterioration of Broach cotton. For this purpose he prepared cultures in special media of the various micro-organisms which were found associated with this cotton. He was successful in isolating and identifying most of them. Arising from his examination of the Broach cotton stored for nearly a year, he has also studied a new type of bacterial infection of which no mention appears to have been made by any of the earlier workers on this subject. In this type of infection the bacteria, instead of merely puncturing the walls of the fibre as has been described by the earlier experimenters, have been found to feed up the secondary cellulose, working their way gradually along the length of the fibre. The cuticle of the fibre is not punctured, but the fibre becomes quite hollow and often gets highly convoluted as a result of this peculiar attack by bacteria. *Mr. Gulati* has taken several photographs showing this type of bacterial infection and an account of it will soon be published. He has, besides carrying out the above-mentioned work, made numerous tests for the determination of the maturity of cotton fibres on the samples sent by the Cotton Breeders.

Dr. L. Thoria joined the staff of the Laboratory on the 1st May 1935. He began work on the possibility of the utilisation of short staple cottons for the manufacture of artificial silk and staple fibre. *Dr. Thoria* was given 8 samples of very cheap short staple Indian cottons, 6 samples of waste and 2 samples of rags, for his experiments. He has prepared secondary acetates from most of these samples and when the apparatus for the testing of the tensile strength and elasticity is received in the Laboratory, he will carry out the work of preparing the films from the secondary acetates with a view to determining the above-mentioned properties.

III. MOISTURE TESTING SECTION.

During the period under review only 17 samples were tested for moisture in the Moisture Testing Section as it was felt that sufficient data is now available for drawing definite conclusions regarding the average moisture content of Indian cottons received in Bombay during the whole year. During the period under review a final report, containing the results of all the tests on samples drawn from trade bales, was prepared and sent to the East India Cotton Association. This report was considered by the Moisture Tests Sub-Committee of the Association who made their recommendations for standards of moisture to the Board of the Association.

IV. PUBLICATIONS.

The following is the list of the Technological Bulletins and Circulars issued during the period under review :—

Bulletin, Series A.—

- (1) Technological Bulletin, Series A, No. 27, "Combing of Good Quality Indian Cottons," by R. P. Richardson, F.T.L., and Nazir Ahmad, M.Sc., Ph.D., F. Inst. P.

Bulletin, Series B.—

- (1) Technological Bulletin, Series B, No. 19, "Effect of Storage prior to ginning on the Spinning Quality of Cotton," by Nazir Ahmad, M.Sc., Ph.D., F. Inst. P.
- (2) Technological Bulletin, Series B, No. 20, "Fibre-Maturity in relation to Fibre and Yarn Characteristics of Indian Cottons," by A. N. Gulati, M.Sc., and Nazir Ahmad, M.Sc., Ph.D., F. Inst. P.

Technological Circulars.

During the period under review 17 Technological Circulars have been issued the details of which are given below :—

Technological Circular No.	Title.	Date of publication.
154	Technological Report on Verum 262 (Nagpur), 1934-35	December 1934.
155	Technological Report on Verum 262 (Akola), 1934-35	"
156	Umri Bani, 1934-35	January 1935.
157	Punjab-American 289F, 1934-35	"
158	Spinning Test Report No. 559 on samples of C.P. No. 1	February 1935.
159	Spinning Test Report No. 560 on samples of Berar cotton	"
160	Spinning Test Report No. 561 on Khandesh cotton	"
161	Spinning Test Report No. 566 on Khandesh cotton	"
162	Spinning Test Report No. 567 on Moglai cotton	"
163	Spinning Test Report No. 568 on Bengals cotton	"
164	Spinning Test Report No. 570 on Ujjain (Ujjain) cotton	"
165	Spinning Test Report No. 571 on Ujjain (Mand-saur) cotton	"
166	Spinning Test Report No. 577 on Hubli Kumpta cotton	March 1935.
167	Technological Report on Gadag 1, 1934-35	April 1935.
168	Spinning Test Report No. 582 on Latur cotton	"
169	Spinning Test Report No. 583 on samples of Nanded cotton	"
170	Spinning Test Report No. 584 on Muttia cotton	"

V. GENERAL.

The Laboratory has continued to attract an increasingly large number of people who expressed the desire to see the work done in its different sections. These visitors are drawn from various classes, businessmen and industrialists, Government Officials and Agricultural Officers, professors and students of textile institutions and other colleges, etc. Apart from numerous representatives of trade and industry the Laboratory was visited during the period under review by the following :—

- (1) The Hon'ble Dewan Bahadur S. T. Kampli, Minister for Education accompanied by Sir M. Visvesvarayyah, and Mr. P. B. Advani, Director of Industries, Bombay.
- (2) Sir V. T. Krishnamachari, Kt., Dewan and President of the Council, Baroda State.

- (3) A party of about 50 students of the Agricultural College, Poona.
- (4) A party of students from the Shri Sahu Agricultural School, Kolhapur.
- (5) Members of the Chemical Association of the Victoria Jubilee Technical Institute.
- (6) A party of students from the Sydenham College, Bombay.
- (7) A party of students from the Baroda Agricultural School.
- (8) A party of students from the Kalabhavan Institute, Baroda.

Extensions.—Several new machines of which the details will be found later were added to the blow-room plant of the Laboratory. The Indian Central Cotton Committee, at its meeting held on the 30th January 1934, has accepted the principle of the extension of the Spinning Laboratory block and the over-hauling of the blow-room machinery. Sanction for the purchase of the new machines was given by the Standing Finance Sub-Committee at its meeting held on the 17th March 1934. These machines were received in April 1935, and the work of installing them in the blow-room was taken in hand on 16th April 1935, and was completed in about six weeks' time. I must here express my deep sense of gratitude to Messrs. J. W. Norris and R. Brewer of Messrs. Tweedales and Smalley (1920), Ltd., for the very great help which they freely gave to me in overhauling the old plant and erecting the new machines. Mr. Brewer specially deserves my very best thanks for the trouble he took in coming to the Laboratory regularly for nearly three weeks in order not only to supervise the work but also actively to collaborate with the Laboratory staff in the erection of the machines. I must also record my appreciation of the excellent work done by members of the staff of the Spinning Laboratory, particularly the Spinning Master, in undertaking the whole of this work and bringing it to a satisfactory conclusion.

The work of extending the Spinning Laboratory block, which had been sanctioned by the Committee, was begun on January 5th, 1935, and was concluded on 30th April 1935. The extension consisted of the enlargement of the blow-room by about 30 feet. For this purpose the old cotton samples room was made a part of the enlarged blow-room and a new samples room was built contiguous to the blow-room. The new samples room is bigger than the old one as it was found that with the rapid increase in the number of samples the old samples room was quite insufficient to accommodate all the samples received for tests at the Laboratory. Furthermore, two new rooms, one for the gins and the *kapas* opener, and the other as a spare room for further contingencies were built contiguous to the spinning room. Moreover, the yarn testing room, which had lately become over-crowded owing to the rapid increase in the work of the Laboratory, was enlarged by about 22 feet. The humidifying ducts in this room were also extended so as to maintain the humidity in this room at the proper level. I must here express my thanks to Mr. S. D. Saklatvala for his kind assistance in recommending to me the name of a local manufacturer who was able to supply me with the parts for the extension of the humidifying ducts. Furthermore, in view of the fact that two new plots had already been purchased to permit the carrying out of the extension to the Spinning Laboratory block, it was felt desirable that the whole property of the Committee consisting now of the six plots should be protected by an enclosure wall. Accordingly, the Standing Finance Sub-Committee sanctioned the extension of the present wall on the east and west sides and the erection of a new wall on the north side. This work was begun on 6th May 1935, and completed on the 28th May 1935. For the purpose of these extensions a total capital expenditure of Rs. 43,500 was sanctioned by the Committee, which included the cost of buildings, new machinery, electric motors, erection charges and necessary equipment. The extensions were completed in all respects by the 25th May 1935, and were formally opened in the presence of the President, the Vice-President, and local members of the Committee and prominent representatives of trade and industry on 29th May 1935. The visitors were taken round the different sections of the Laboratory and were afterwards given light refreshments in the large new compound of the Laboratory.

Staff.—The Spinning Master returned from leave, spent outside India, on 11th January 1935, and took over charge from Mr. N. Iyengar who had officiated in the leave vacancy.

Mr. M. M. Patke, Instrument Maker, resigned his post from 15th February 1935, and the post was filled by the appointment of Mr. J. B. Kharas on a revised scale of pay.

In order to cope with the increased work in the Fibre and Yarn Testing Sections of the Laboratory, two posts of Temporary Junior Testers were created for a period of four months each. These were filled up by Messrs. G. Hurry and C. A. S. Iyer. These Junior Testers worked in the Laboratory from December 10th, 1934, to April 9th, 1935.

Mr. R. S. Koshal, Temporary Senior Research Assistant, was given the permanent post of Senior Research Assistant due to the resignation of Mr. D. F. Kapadia. Dr. K. R. Sen, Technological Assistant, Lyallpur, was appointed to the vacant post of Junior Research Assistant on a revised scale of pay. Dr. Sen took up his duties at the Laboratory on May 17th, 1935.

During the period under review the writer was elected a Fellow of the Institute of Physics, London, and a Fellow of the Indian Academy of Science, Bangalore. He was also nominated by the Government of Bombay, as a member of the Managing Board of the Victoria Jubilee Technical Institute, Matunga, Bombay.

As in the past, two students from outside, namely Messrs. P. H. Bhutta and V. S. Matkar, were selected for training at the Laboratory from 1st December 1934, for a period of six months. Their period of training came to an end on 31st May 1935.

Mr. K. S. Marar, Junior Tester, who was appointed Technological Assistant, Sakrand, was relieved on the 30th April 1935. This post was filled up by the appointment of Mr. C. S. Ramanathan, who joined duty on 4th June 1935. Mr. K. G. Deo, Junior Tester, was temporarily transferred to Lyallpur to relieve Dr. K. R. Sen. Mr. Raja Raman, who was appointed as Technological Assistant for Lyallpur, joined the Laboratory on the 12th June 1935, to receive training prior to taking up his duties at Lyallpur. During the period of Mr. Raja Raman's training at the Laboratory, Mr. K. G. Deo, was transferred to Lyallpur to carry on the work there. He will revert to his permanent post at the Laboratory when Mr. Raja Raman will take over charge of his post at Lyallpur.

Mr. M. A. Gangat, Junior Tester, resigned his post on the 22nd May 1935, to take up an appointment in the Department of Industries, Bombay. The post was filled up by the appointment of Mr. M. R. Raut, who joined his duties on 10th June 1935.

Equipment.—During the period under review the following machines and apparatus were added to the equipment of the Laboratory:—

- (1) Horizontal opener cleaner,
- (2) Cage exhaust,
- (3) New hopper feeder with three step cone pulleys,
- (4) Improved dust trucks with vibrating grids,
- (5) Two cyclones.

All these machines were supplied by Messrs. Tweedales and Smalley (1920), Ltd., Castleton, Rochdale.

In addition, the old hopper feeder has been provided with strong upright and even lattices and the old crighton opener with new triangular grid bars and new sets of blades.

The scutcher has now been equipped with a variable speed motor in which the beater speed can be varied from 500 to 1,000 r.p.m. Another feature of the present blow-room is the provision of a bye-pass by means of which the crighton opener can be thrown out in the case of clean cottons for which a milder blow-room treatment is regarded sufficient.

- (6) Two new electric motors, one of 8½ h.p. and the other of 13 h.p., supplied by Messrs. Asea Electric, Ltd., Bombay.
- (7) Single Yarn Twist Tester manufactured by the Fine Cotton Spinners' and Doublers' Association, Ltd., Rock Bank, Bollington, Cheshire.

Acknowledgment.

I have great pleasure in acknowledging the valuable assistance rendered to me by members of the staff of the Technological Laboratory without whose collaboration it would have been impossible for me to do the work described in this report.

(Sd.) NAZIR AHMAD,
Director, Technological Laboratory.

Dated the 13th July 1935.

APPENDIX VIII.

SUBJECT 22.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 10-30 a.m. on the 17th August 1935.

The Sub-Committee recommends that Rao Bahadur D. Ananda Rao Garu and Messrs. J. Tinker and A. A. Sarantides be appointed as members of the Sub-Committee for the remainder of the current financial year in the places vacated by Messrs. S. V. Ramamurty, E. J. W. Plummer and H. B. Moore.

The Sub-Committee considered a request from the Karachi Cotton Association asking for the privilege to nominate two, instead of one co-opted member on the Sub-Committee. The Sub-Committee regrets inability to recommend more than one co-opted member for Karachi.

The 24th Progress Report of the Director for the seven months ended 31st May 1935 was considered. The total number of samples received for tests during the period under review was 434 as against 311 received during the corresponding period last year. Though receipts of samples were high, the number of samples, lots and yarns spun was comparatively less owing to the dislocation of work caused by the overhauling of the old and erection of new machinery in the course of the extensions to the Laboratory carried out during the period under report.

In regard to the tests on private samples undertaken at the Laboratory, the Sub-Committee recommends that the Director might obtain the permission of the parties concerned to the publication of such test results as are of general interest. The name of the suppliers might, if so desired by them, be omitted when publishing the results of the tests.

The Sub-Committee recommends that an investigation, similar to the one carried out to determine the deterioration, with lapse of time, in Broach cotton be undertaken on *B. D. 8* and pure *Goghari* cotton. The Director of Agriculture, Bombay Presidency, will kindly arrange to supply one bale each of these cottons to the Laboratory.

As regards the experiments carried out at the Laboratory for ascertaining the effect, on the quality of lint, of storage of *kapas* prior to ginning, the Sub-Committee recommends that seed cotton stored for 4 months should similarly be tested.

The Sub-Committee wishes to place on record its appreciation of the good work done in the Laboratory under the guidance of Dr. Nazir Ahmad.

The Sub-Committee considered the brochure on past work of the Laboratory and its future programme of work submitted by the Director. The Sub-Committee recommends that it should be published with the following additions:—

- (1) To emphasise the main object of the Laboratory in the Introductory chapter.
- (2) To add, for the benefit of the cotton trade and industry, at the end of the brochure a small chapter giving in non-technical language a summary of the most important results (of practical value) so far obtained at the Laboratory and
- (3) To incorporate in the brochure a detailed table showing the results of moisture tests on samples.

The Sub-Committee also recommends that from the programme of work submitted by the Director only the following items should be attempted at present:—

- (1) The effect of density of feed on the fibre properties and the spinning performance of ginned cotton.
- (2) The effect on yarn strength and yarn-neppiness of different beater speeds in the righton opener and the scutcher, using the most suitable standard Indian cottons.
- (3) Waste losses of clean-picked and dirty-picked cottons.
- (5) Blow-room treatment in relation to dirtiness of a cotton.
- (7) The determination of suitable twists in and drafts for mixings of different cottons.

- (9) The effect of roller weight and roller-setting in the ring frame on yarn strength and yarn regularity.
- (12) The effect of (i) variety (ii) environment, (iii) distribution of rainfall, (iv) differential irrigation and (v) early frost on fibre-maturity.
- (13) The relative importance of the various physical fibre-properties in regard to the 'mixing quality' of different Indian cottons.
- (16) Study of the properties of fibres at the point of rupture in a yarn.
- (17) Study of the properties of Indian cottons in relation to Kier Boiling and Bleaching, with comparative tests on American, African and Egyptian cottons. Determination of the optimum conditions of Kier Boiling and Bleaching for the different cottons.

The Sub-Committee considered a letter from the Director of Agriculture, Gwalior, requesting facilities for the training of the Crop Botanist, Malwa, at the Technological Laboratory. It was decided that the Crop Botanist should first have six months' training under Prof. Mahalanobis in statistical methods, and if the latter reports satisfactorily about Mr. Mathur, he may be given at the Laboratory the training asked for.

The Sub-Committee approves of the proposals submitted by the Director for co-ordination of the work of the Laboratory, the Victoria Jubilee Technical Institute and the Bombay University Department of Chemical Technology in the matter of investigations into the bleaching and scouring of Indian cotton.

The Sub-Committee considered a mass of information available on the alleged deterioration in the quality of Southern cottons. The Sub-Committee feels that there is ample justification for these complaints in the *Jayawant* area, as mixing is freely resorted to in this area. The only remedy appears to be to penalise mixing by suitable legislation, and thus stop it altogether. If this is not possible, the bales of mixed cottons are to be suitably marked as 'mixed' to indicate the nature of their content. The Sub-Committee recommends that these views may be communicated to the Government of Bombay for necessary action.

The Sub-Committee also considered two suggestions made by the Director, Technological Laboratory, regarding (1) the preparation in Rome, by Committee's Research Students returning from foreign study, of complete bibliographies of literature on their subjects and (2) the sending of a student to the Milan Experimental Station for training in physical and chemical methods of testing vegetable fibres and their products. The Sub-Committee considers that no hard and fast rule can be laid down in the matter, but that the suggestions may be borne in mind for consideration when suitable opportunities arise.

The Sub-Committee agrees with the decisions of the Agricultural Research Sub-Committee regarding the conference of scientific workers on cotton.

The report of the Director on the results obtained in connection with the work of testing Indian cottons for moisture content at the Technological Laboratory was recorded.

The Sub-Committee considered a report, submitted by the Director on the tests carried out at Karachi on the effect of storing cotton bales in the open and in sheds. The report shows that cotton in godowns is better preserved than cotton in open sheds. The attention of the Karachi Port Trust may be drawn to this, and they may be asked to provide more godown facilities at Karachi.

The Sub-Committee approves of samples submitted by the Trade being tested for their moisture content at the Moisture Testing Section of the Laboratory, and recommends that the following sliding scale of fees be charged for tests on samples received from private firms :—

	Rs. a.					Rs. a.			
1 sample	..	5	0		3 samples	..	..	10	0
2 samples	..	7	8		4 samples	..	..	12	8

The Sub-Committee recommends that another series of 8 samples of cotton of 1934-35 season be accepted for tests, free of charge, from the Uganda Agricultural Department, and that every additional sample tested be charged for at the rate of Rs. 100 per sample.

The Sub-Committee agreed with the report of the Agricultural Research Sub-Committee on the work of the Technological Assistants, Dr. K. R. Sen and Messrs. R. L. N. Iyengar, H. R. Nayak and Sri Nagabhushana.

APPENDIX IX.

SUBJECT 23.—*Agricultural Research—General Progress Report.*

The Indian Central Cotton Committee has provided funds for 30 Agricultural Research Schemes and 15 Seed Distribution Schemes in the budget for 1935-36.

A. AGRICULTURAL RESEARCH SCHEMES.

Out of the 30 schemes, the following 28 schemes are dealt with under separate subjects noted against them on the agenda and require no comment here:—

<i>Schemes.</i>	<i>Subject No.</i>
1. Broach Cotton Breeding Scheme	24
2. Jalgaon Cotton Breeding Scheme	25
3. Scheme for survey of <i>Goghari</i> cotton in Gujerat	26
4. Scheme for Defibration of cotton seed in Bombay Presidency	27
5. Plant Puller Propaganda Scheme in Surat and Broach districts	28
6. Sind Physiological Research Scheme	29
7. Madras Herbaceum Scheme	30
8. Madras Fodder Cholan Scheme	31
9. Madras Pempheris and Physiological Research Scheme	32
10. Madras Nadam Cotton Breeding Scheme	33
11. Punjab Botanical Research Scheme	34
12. Punjab Pink and Spotted Boll-worm Scheme	35
13. Punjab Cotton White Fly Scheme	36
14. Punjab Spraying Trials Scheme	37
15. Punjab Root Rot Scheme	38
16. Punjab Physiological Scheme	40
17. Central Provinces Botanical Scheme	41
18. Central Provinces and Berar Entomological Scheme	42
19. Scheme for Survey of Cotton in Rohilkhand and Bundelkhand, United Provinces	44
20. Institute of Plant Industry, Indore.	45
21. Hyderabad Botanical Research Scheme	46
22. Hyderabad Pink and Spotted Boll-worm Scheme	47
23. Hyderabad Cotton Survey Scheme	48
24. Bikaner Gang Canal Scheme	49
25. Baroda Root Rot Scheme	50
26. Scheme for Survey of <i>Goghari</i> cotton in Baroda State	51
27. Burma Cotton Improvement Scheme	52
8. Bengal Comilla Cotton Scheme	53

The remaining two schemes, viz., Plant Puller Propaganda Scheme in Baroda State and Mysore (Doddahathi) Cotton Scheme, which were sanctioned in August 1934 and February 1935, respectively, have not yet started.

B. SEED DISTRIBUTION SCHEMES.

Progress Reports on the following schemes are dealt with separately on the agenda under subjects noted against them :—

<i>Schemes.</i>	<i>Subject No.</i>
1. Hubli Scheme	54
2. Gadag (Extension) and Gadag (Supplementary) Schemes	55
3. Surat Scheme	56
4. Khandesh (Banilla) Scheme	57
5. Deccan Canals ((Banilla) Scheme	58
6. Athani Scheme	59
7. Sind Scheme	60
8. Madras (Tiruppur) and Co. 2 Schemes	61
9. Scheme for Extension of Long Staple Cotton and Marketing of Verum Cotton in the Central Provinces and Berar	62
10. Hyderabad Scheme	63
11. Baroda Scheme	64

The remaining schemes, viz., Haveri, Bailhongal, United Provinces C. 402 and the scheme for the sale of all farm crop produce in the Punjab, have not yet started.

APPENDIX X.

SUBJECT 67.—*Report of the Agricultural Research Sub-Committee.*

The Agricultural Research Sub-Committee met at 11 a.m. on Thursday, the 15th August 1935, and divided itself into Sectional Sub-Committees for detailed examination and report.

The reports submitted by the Sectional Sub-Committees were considered at the plenary sitting of the Sub-Committee on the 16th August 1935.

A. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON
PROGRESS REPORTS AND PROGRAMMES OF WORK.

The Sub-Committee considered and approved the following progress reports on schemes and the respective programmes of work for 1935-36 subject to the remarks, if any, made against each :—

(1) *Agricultural Research Schemes.*

Broach Cotton Breeding Scheme (No. 24). During the year under report four crosses were studied and promising strains have been retained for further tests.

The Sub-Committee feels that it should not be too readily assumed that low temperatures were the cause of the doubled death percentage mentioned on page 2 of the summary of work done; there were other effects of continuous rains which might be responsible.

Jalgaon Cotton Breeding Scheme (No. 25).—The three new wilt-resistant strains, N.V.57-7, N.V.56-3 and N.V.56-17, proved again this year better yielders than *Banilla* and N.R.8, and did not suffer from bad effects of continuous rains after sowing.

The Sub-Committee suggests that in giving results of replicated field and other experiments the method of the lay-out of plots should be given and the critical difference and the level of significance should be indicated, e.g., by giving the value of P or the significant difference between treatments, varieties, etc.

Scheme for Survey of Goghari Cotton in Gujerat (No. 26).—Frost damaged made this survey more difficult than it would otherwise have been. The Sub-Committee suggests that attention should be paid to the following points during the current year's work :—

- (1) 20 per cent. of *Goghari* is a bad degree of mixture and it is not safe to treat cotton with less than 20 per cent. mixture as unmixed; five per cent. is easily detectable in the fields and it is suggested that this should be the criterion in future;
- (2) No information has been given about 45 out of 53 villages surveyed in Jalalpure this year. It is suggested that in the future full details should be given for each village surveyed and not only for the bad ones. The same remark applies to other talukas. It is also important to show in the report the number of *cultivators* in each village whose cotton is found to be mixed.

The Sub-Committee notes with regret that gin-owners have not responded as was expected and do not seem to have taken advantage of the information supplied to them. It is suggested that a copy of the report, with the further details mentioned above so far as available, should be sent to the Divisional Cotton Committee who should be asked to try to secure the co-operation of the gin-owners. Secondly copies of the report should be sent to the East India Cotton Association for supply to those members of the trade who are interested in Surat cottons, as some of them may be willing to use their influence with gin owners. It is also suggested that in operating the Surat Cotton Seed Scheme, special attention should be given to clearing up these pockets of mixed cotton by displacing the mixed seed with pure seed.

Scheme for Defibration of cotton seed in the Bombay Presidency (No. 27).—The defibrating machine was purchased and installed as already decided by the Committee at the ginnery belonging to Messrs. Narandas Rajaram & Co., at Palej, Broach District. It will commence work in January 1936.

The Sub-Committee desires to draw attention to the absence of any mention of costing from the programme before them.

Plant Puller Propaganda Scheme in Surat and Broach Districts (No. 28).—Vigorous propaganda was carried out as in previous years. About 80 per cent. of the cotton area in Broach, 90 per cent. in Amod, 75 per cent. in Wagra, 40 per cent. in Jambusar and 22 per cent. in the south of Nerbudda were cleared of cotton stalks in the year under report.

In view, however, of the fact that in certain talukas considerable areas were left untouched, the Sub-Committee is of opinion that more intensive work should be carried out particularly in the main areas to ensure that no centres of infection are left. The Sub-Committee considers that the Committee's funds might be utilised in cleaning up areas that might otherwise be left.

Arrangements should be made to see that a sufficient number of plant pullers of the right type is made available over the whole area, as it is stated in the report that the Jambusar area suffered from a scarcity of pullers of a specially strong type.

It will be seen from the report that the chief hindrance to the uprooting of plants was that new leases were settled so late in the season that the incoming tenants found it difficult to comply with the requirements. As the scheme is due to terminate in June 1936, the Sub-Committee considers that before that date, some sort of legislative sanction should be given by the Government of Bombay to the Agriculture or Revenue Department to enforce the uprooting of cotton stalks.

The Sub-Committee considers that the experiment has been a success and that further propaganda at the expense of the Committee will not be necessary after the termination of the scheme.

Sind Physiological Research Scheme (No. 29).—The work has followed the lines laid down and the progress is satisfactory.

One of the chief items in the programme of work was to find out the optimum time for the sowing of cotton in the Barrage area. This experiment has been concluded and the results are being published.

The work on the water requirements of the cotton crop has come to a stage when its practical application might now be tested on a field scale on Government farms.

The Sub-Committee considers that the results from the manurial experiments are sufficiently far advanced to enable the economics of the two best treatments to be studied on a field scale on the Government farms.

Regarding the investigation into red leaf, the Sub-Committee notes that a full report is being submitted for the opinion of the Indian Central Cotton Committee regarding future work on this important problem. The Sub-Committee would recommend that this report, when received, should be circulated in good time to members so that other workers might be invited, if considered necessary, to discuss the matter in the Agricultural Research Sub-Committee.

Item 3(b) on page 10 in the programme of work should be omitted.

Madras Herbaceum Scheme (No. 30).—The Sub-Committee notes that two new strains, viz., 4714 and 4803, which have lint lengths of 26 mm. and 28 mm. respectively, have yielded well in a year of short rainfall and seem to possess drought resistance comparable with *herbaceum* cotton. Work has been carried out on the lines recommended by the Special Sub-Committee in the report which was adopted in February 1935.

Madras Fodder Cholam Scheme (No. 31).—This investigation is now yielding interesting results. It was stated by the Cotton Specialist that the treatments under item (3) in the programme of work would include gypsum and sulphur. There is a misprint on page 4, table 3(a) "Na—20.34" should read "Na—+0.34." It is also suggested that in the next report a complete analysis of the soil should be included.

Madras Pempheres and Physiological Research Scheme (No. 32).—Work has been conducted on the lines approved by the Special Sub-Committee which reported in February 1935. Though it was observed last year that the actual loss due to *Pempheres* was only 4 per cent, the results obtained from the repetition of the same experiment in 1934-35 show that the loss sustained in yield is as high as 50 per cent—20 per cent. due to the death of plants and the remaining 30 per cent. to poor yield on account of the attack.

It is interesting to note that Peruvian cotton gums up so rapidly after *Pempheres* attack that the insects die out. As regards the programme for 1935-36, it is recommended that item (4) be dropped and also item (7). Items (5) and (6) should be continued. Item (5)—Study of the causes of gum formation—is important.

Madras Nadam Cotton Breeding Scheme (No. 33).—The report shows that there is a possibility of securing an annual type which can replace *Nadam*.

Punjab Botanical Scheme (No. 34).—As a result of further tests in 1934-35, 43F has been finally selected and it is expected to occupy about 6,000 acres in the 1935-36 season. It is an early and Jassid-resistant type with superior fibre qualities. 38F, though susceptible to Jassids, may prove useful in drier parts of the Province. It is gaining favour with the British Cotton Growing Association at Khanewal.

The Sub-Committee suggests that to the watering experiments might be added one more type wherein 28 inches of irrigation including rainfall should be given in such a way that during the flowering season the plants would receive more frequent waterings.

Punjab Pink and Spotted Boll-worm Scheme (No. 35).—The indication is that the attack of the spotted boll-worm is more severe in the Canal Colonies and Western Punjab, than in the rest of the Punjab, where the pink boll-worm predominates. In the Punjab there is a close period of cotton over four months and during this period the spotted boll-worm lives on other host plants, and on young shoots of ratoon cotton. The pest appears on cotton crop in the middle of June and continues damaging first the tender shoots and then flower-buds and green bolls. Its total damage, as will be seen from night caging experiments, amounts to about 47 per cent. on 4F and 65 per cent. on *desi* cotton.

The Sub-Committee considers that practical control measures on the lines conducted in Surat area should be energetically followed up from January 1936, and that uprooting of cotton stalks, after the completion of the picking season should be secured over an area of not less than 50 square miles, the actual area fixed with reference to the flight distance of the moth. If necessary, other less urgent items of the programme should be postponed. As there are two Research Assistants, five Field Assistants, and fifteen Fieldmen employed under the scheme, the necessary re-arrangement of programme should be possible.

The following additional note has been sent with reference to para. 7 of the report:—

“Data collected on the study of parasites show that a temperature in the neighbourhood of 82°F is optimum for the increase of *Microbracon lefroyi*, while above 95°F and below about 55°F no development takes place. The duration of total life cycle varies from 7 to 51 days. This parasite probably over-winters in the adult stage, all other stages of the parasite are readily killed by frost. It has been found so far that this parasite attacks both spotted and pink boll-worms.”

As regards the programme of work for 1935-36, the Sub-Committee has the following further observations to make:—

Item (2) can safely be dropped in view of the information which is now available from work done in various parts of India. There is no doubt that the spotted boll-worm is a major pest of cotton in the Punjab and approximate information is already available regarding the extent of damage.

Item (3).—The important point here is to confirm the result that cotton stumps are the only alternative host for about a month and a half.

As regards *item (4)*, mass-breeding technique was definitely ruled out by the Agricultural Research Sub-Committee in August 1934, as it was not considered that the scheme included either the staff or equipment necessary for this purpose.

Item 4(a) should include the degree of parasitism by these parasites.

Item (5) as worded is somewhat outside the scope of the scheme but it was explained that what is meant by the second sentence is “the effect of sudden shedding caused by rain storms on the boll-worm population.”

Punjab Cotton White Fly Scheme (No. 36).—Severe infestation greatly affects the vegetative growth of the crop. The yield, ginning percentage and even seed weight are affected according to the period and duration of infestation. The application of *Iron sulphate* and *Ammonium sulphate* showed considerable effect on the infestation and yield.

Punjab Spraying Trials Scheme (No. 37).—A total area of 2,640 acres was sprayed in three centres, viz., at Khanewal, Okara and Sargodha, but the operations could not be started till about the end of July instead of in June as originally contemplated. The results were, however, quite satisfactory.

The Sub-Committee considers that the Punjab Agricultural Department might now consider the advisability of bringing the results to the notice of growers, even though the Department is not prepared to make a definite recommendation until further experimental data are obtained.

Punjab Root Rot Scheme (No. 38).—Both *Desi* and American varieties of cotton are equally susceptible to *root rot* which appears to be causing much damage by rapidly spreading in all irrigated areas of the Punjab. *Root Rot* is, as explained in previous reports, caused by two species of *Rhizoctonia*. The work of the year indicates that contrary to the indications obtained last year the incidence of the disease under irrigated conditions does not appear to have any relation to the number of irrigations and that the disease is carried over from one year to another on live cotton roots in the soil.

Section (vi) in the summary is not quite accurately expressed; details are given in para. XV. For this determination sowings should be made at least weekly, and preferably twice a week throughout May and June.

Susceptibility of various varieties to root rot, Table VIII.—No information is given of the measures taken to secure uniform opportunities of infection and that the unaffected plants are not merely escapes.

Para. X.—The other soil disinfectants such as HCN and Calcium cyanide mentioned last year have not been tried.

Programme of work for 1935-36. Item 3(iii).—The Sub-Committee does not favour empirical cultural experiments but cultivation experiments should be designed as the results of the laboratory investigations.

Item 3 (v).—As noted above, special precautions are necessary to ensure uniform infection.

Item 3 (vi).—Sowings should be made weekly at least, as indicated above and this item should be combined with a study of meteorological factors mentioned in item IV.

Item 3 (vii).—Should be omitted as not likely to lead to any useful results.

Item 3 (viii).—No large scale soil survey is required for this problem as healthy and infected areas are found in the same field and the disease is known all over the cotton-growing areas of the Punjab. An intensive study seems to be more promising.

Punjab Defibrating and Delinting Scheme (No. 39).—Results of any value have not yet been obtained.

It was noted that the defibrator required alteration to deal with Punjab-American seed. The continuance of the scheme for one year was recommended, the cost being borne out of the balance of the amount already budgetted.

Punjab Physiological Scheme (No. 40).—The programme of work for 1935-36 is tentative and liable to modification as results are obtained. It is understood that Mr. Sant Singh Verma, one of the Committee's research scholars who is returning from England and who had previously been in the Cotton Botanist's section will join as assistant to the Physiologist at the beginning of September. As a result of various observation obtained on item (v) which seem to indicate the presence of either a bacterial or virus disease, a temporary Assistant is urgently required for six months to carry out routine work under Mr. Dastur's immediate guidance. A suitable man can be obtained for Rs. 150 per mensem. The Sub-Committee recommends that this assistant be sanctioned at once, the cost to be met by re-appropriation from the total amount sanctioned for the whole scheme. It is most desirable that there should be no delay in working up the material obtained this season.

Central Provinces Botanical Scheme (No. 41).—The report shows that during the year the two strains, *V. 434* and *Late Verum*, were very successful everywhere they were tried. *V. 434* is hardy, prolific and superior in lint besides being drought and wilt resistant and proved a success under a wide range of conditions. It is expected to expand to about 20,000 acres in 1935-36 season. *Late Verum* spins up to 36s and is well suited to localities where the rainfall is heavy and monsoon extends late in the season. It is expected to cover about 100,000 acres in the current season. Other promising strains such as No. 438, *Ak. 766*, *Ak. 773*, *Bani 306*, and *F.B. 31* are also under trial.

Central Provinces and Berar Entomological Scheme (No. 42).—The incidence of the boll-worm pests at Akola is greater than at Nagpur probably due to the more suitable climate and higher concentration of cotton area at Akola. The spotted boll-worm commences its attack first on tender shoots when the crop is only a few weeks old and from September onwards it causes much damage to flower buds and green bolls. The pink boll-worm, on the other hand, appears only in September and very little damage is done by it before the crop is harvested. The combined effect of the two boll-worms is, however, severe as the total reduction in yield due to the two boll-worms amounts to 51%. In addition, 20% of the harvested crop consists of half-eaten seed and stained lint and 3% completely useless cotton.

The Sub-Committee noted that the examination of bolls *in situ* for pink boll-worm is not satisfactory and the methods followed elsewhere of completely stripping a given number of random-selected plants will give a better idea of the incidence of attack. More reliable data would have been secured of pink boll-worm attack if this method had been adopted. The Sub-Committee is glad to see that the latter method is being adopted in the present season.

In order to determine whether long cycle larvae of pink boll-worm exist under the conditions obtaining in Berar, the emergence of moths should be observed in stored seed as well as in stored *kapas*. Observation should be carried out until the monsoon is well established and not only until the end of hot weather.

The Sub-Committee recommends that the scheme should complete the period for which it was sanctioned.

Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces. (No. 44).—The Rohilkhand cotton crop was surveyed in 1933 and 5,032 samples of cotton were collected. Out of these samples the best 396 were selected for detailed examination in 1934. The best of these and others selected from unsold plants will be retained for observation next year.

Bundelkhand.—In Bundelkhand, 1,101 villages were visited in 1934 and 6,228 samples of cotton were collected. Better types of cotton were seen growing in Mohoba Tehsil of Hamirpur district, Lauri Tehsil of Chatarpur State, Moth Tehsil of Jhansi district and Tehrauli Tehsil of Orchha State.

Institute of Plant Industry, Indore (No. 45).—This report is for the year ending 30th June 1935.

1. **Pages 7 and 8—Items (a) and (b).**—The Sub-Committee considers that this work will be of definite value to plant-breeders as will also item (c) on page 8.

2. **Page. 9.**—The Sub-Committee considers that a description of the replicated progeny row method will be of interest to breeders and suggests that Mr. Hutchinson might circulate a note on his return from leave.

3. **Page 10.—Cotton Wilt.**—The conclusion in paragraph a (1) is at variance with the result obtained at Dharwar but similar to results obtained in the Central Provinces. It seems probable that the fungus used at Indore is not the same as that at Dharwar, the Director has promised to look into this point.

4. **Sub-para 3, page 10.**—It is suggested that the relative number of root hairs on wilted and non-wilted plants would be of interest. In table 1 on this page, the number of roots examined should be stated.

5. **Pages 25-26.**—Most of staple lengths here recorded are so abnormally short for *Cambodia* that it seems obvious that this cotton is not suited to the area and does not grow normally and the effects of manuring, etc., on staple length are probably abnormal.

6. **Cotton nutrition in relation to environment.**—The Sub-Committee considered this work on the effect of illumination of the cotton plant to be of quite minor importance. The study of cotton soils is a useful piece of work.

7. The report records good work on lines approved by the Indian Central Cotton Committee. At page 46 is given a list of publications during the year and publications in the press.

8. The Sub-Committee suggests that the old procedure of printing the report before it is presented to the Indian Central Cotton Committee should be resumed in future, as this would greatly facilitate the work of the Agricultural Research Sub-Committee. It considers that the report should be printed for presentation to the Board of Governors and to the Indian Central Cotton Committee but it would not of course be released until it has been approved by the Governors of the Institute.

Hyderabad Botanical Scheme (No. 46).—The progress report is for the sixth year of the scheme and shows that in the varietal tests G4, G6, G55 and P25 were decidedly superior to the local *Gaorani* in every respect and that among the new strains themselves G4 appeared to be the most promising though slightly inferior to the rest in ginning percentage and to G6 in spinning value, both of which have given very encouraging results in district trials. It is proposed to distribute their seed in 1935-36 season for about 1,000 and 600 acres respectively.

Hyderabad Pink and Spotted Boll-worm Scheme (No. 47).—It would appear from the progress report which is a summary of the work carried out during the last three years that the spotted boll-worm is carried over from season to season in growing plants and alternate host plants. From the results obtained, the pink boll-worm does not seem to be carried over in the seed and it would appear that infection from the soil is one of the main sources of carry-over, although stray cotton plants have been found in the hot weather months harbouring the pest. The present year's results will confirm how the pest is carried over and the next item of work will be to find out how to overcome this difficulty.

Hyderabad Cotton Survey Scheme (No. 48).—During the year under report, 207 samples of seed—119 of *kharif* and 88 of *rabi*—collected from the districts were grown for analysis.

The analysis of *kharif* samples shows that in Parbhani, Bir and Raichur districts the bulk of *kharif* crop up to 70% is made up of *G. neglectum* while *G. indicum* is present only up to 20-30% in the first two districts and 15% in the third. In all the remaining districts the proportion of *G. indicum* is as high as from 50 to over 95 % against 1 to 33 % of *G. neglectum*.

Rabi samples, on the other hand, indicate that *G. herbaceum* is almost the only type grown as *rabi* crop in Karimnagar and northern part of Warangal districts. Similarly *G. obtusifolium* in Nalgonda and Southern part of Warangal districts and *G. indicum* in Asifabad district are more or less the only types grown there as *rabi* crop.

The Sub-Committee appreciates the fact that the scheme embodied selection as well as survey, and is of the opinion that the work done has been and will be of great use in the selection and development of superior types for the different localities.

Bikaner Gang Canal Scheme (No. 49).—Under the present agricultural conditions Cawnpore 520 (*Desi* selection) is best suited to the Gang Canal area and a beginning has been made to multiply this seed for general distribution. American varieties seem to be unsuited.

Baroda Root Rot Scheme (No. 50).—The Sub-Committee notes that Dr. Likhite visited Lyallpur and that during this year Dr. Sahai, the Lyallpur Investigator, will visit Baroda to compare results. It is quite clear that the principal fungus at Baroda is quite different to that causing *root rot* in the Punjab.

As regards the programme of work for 1935-36, it understands that under item (3) both pot culture experiments and plot experiments using sulphur and superphosphate will be carried out.

Scheme for Survey of Goghari Cotton in Baroda State (No. 51).—Field survey has revealed that there is very little *Goghari* mixture in Palsana, Mahuwa and Gandevi talukas, while in the Navsari zone 10% of cotton is *Goghari*.

The survey this year was of a preliminary character. The same suggestions as have been made for Broach-Gujarat apply to the Baroda State.

Burma Cotton Improvement Scheme (No. 52).—The work of the year continued on the same lines as in previous years.

The Sub-Committee recommends that the number of holdings be reduced to a manageable number as the demonstrators appeared to find difficulty in carrying out the work in the number at present employed.

Bengal Comilla Cotton Scheme (No. 53).—As the work commenced only in December 1934, no great progress can be expected. The Sub-Committee considers that items Nos. 6 and 7 of the programme of work should not be attempted until a much later stage of the scheme.

(2) Seed Distribution and Extension Schemes.

Hubli. (No. 54).—Though 1,541,331 lb. of *Jayawant* seed had been stocked in the year under report, for lack of moisture at sowing time only 1,462,861 lb. sufficient for 146,286 acres were distributed in the area of operation. Over 5 lakhs lb. of seed were supplied outside the area of operation. From the produce of the reserved area maintained during the year 17 lakhs lb. of seed have been collected for distribution in 1935-36.

The expenditure associated with the scheme is in two parts—the sanctioned grant which includes the subsidy to the Co-operative Cotton Sale Society and a loan. On the former the grant amounts to Rs. 50,110 against an estimated total expenditure of Rs. 48,800 leaving a saving of Rs. 1,310. In the latter the value of the loan is Rs. 7,629 and the indications are that this is not likely to be recovered. The whole scheme, therefore, is likely to be at a loss of about Rs. 6,300. While the work covered by the grant is up to expectation, the estimated area under *Jayawant* cotton of 2 lakhs acres has not been realised. This is due to the inability of the Co-operative Sale Society to fulfil their expected purchases and distribution of seed. In this reference it may be noted, however, that the Society in the early stages suffered a heavy loss due to the fall of the price of seed and discouraged by this did not feel justified in running the risk of heavy purchases. Other factors which have tended to reduce the total area sown by this cotton as distributed by the Sale Society have been the absence of loyalty among the members and the failure to sell *kapas* to the Society in the absence of the Society's ability to provide the necessary advances. The Director estimates that the farmers who have grown *Jayawant* pure pedigree seed have made on the average 3 lakhs extra profits per annum. Practically all the cotton of this area is either pure *Jayawant* or a mixture in which *Jayawant* predominates.

Gadag (Extension) and Gadag (Supplementary). (No. 55).—Of the 1,187,589 lb. of *Gadag* 1 seed stocked during the year under report 902,495 lbs. of seed sufficient for 90,250 acres were distributed. The reserved area maintained and rogued under the scheme was 25,000 acres. From the produce of this area about 12 lakhs lb. of pedigree seed have been collected and stocked for distribution in 1935-36.

This scheme is very similar to that at Hubli. The total grant provided by the Indian Central Cotton Committee was Rs. 54,545; the estimated expenditure to the end of the scheme is Rs. 47,181. There is thus likely to be a saving of Rs. 7,364. Of the loan given to the Society of Rs. 7,292, Rs. 4,192 are likely to be recovered. There is only thus a loss of Rs. 3,100. There is thus on the whole scheme a saving of approximately Rs. 4,200. The conditions and difficulties are similar to those experienced at Hubli.

The Sub-Committee is, however, satisfied that, though in neither case full expansion as expected had been obtained, the funds of the Indian Central Cotton Committee have been well spent in encouraging the development of this cotton.

Surat. (No. 56).—During the year under report 1,506,225 lbs. of 1027 *A. L. F.* seed were distributed in the Surat-Broach area besides the 377,829 lb. supplied to adjoining States. In addition the Hansot Co-operative Cotton Sale Society distributed another 428,734 lb. in the area served by it.

The estimated saving on this scheme are likely to be about Rs. 7,100. The Director of Agriculture reports that 1027 *A. L. F.* cotton has lost in popularity this year and that there has been a distinct set-back in the Olpad Taluka where the Sonsek group of the Co-operative Sale Society has reverted to 1A. Several causes have operated in creating this position; the more important being the high quotation rate for Surat, the small premiums forthcoming for 1027 cotton and the influence of frost, which is believed to have favoured 1A.

The Sub-Committee is, however, of the opinion that the scheme should be pressed forward with increased vigour.

Kandesh (Banilla) (No. 57).—In 1934-35, 15,985 acres were under control, and 1,965,000 lb. pure seed enough to cover an area of about 65,000 acres in 1935-36 season has been reserved. *Banilla* cotton fetched during the year a premium of Rs. 10-15 per *khandy* over local cotton.

Deccan Canals (Banilla).—(No. 58).—On the Government Farm at Kopergaon. 32 acres were sown to cotton and of the total quantity of good cotton seed obtained from this area 18,000 lb. were supplied to seed growers.

Athani. (No. 59).—This is another *Jayawant* cotton extension scheme. Though this scheme has suffered from certain disabilities, in particular, loss of crop by floods which reduced the expected reserved area from 11,100 acres to 4,594 acres, the general prospects are promising.

Sind. (No. 60).—With regard to 27 *WN* a *Desi* cotton referred to in the report the Sub-Committee is satisfied by the explanation given by Mr. Thadani that the extension of this cotton does not form part of the programme of the Sind Agricultural Department. The Sub-Committee is also satisfied that steady progress is being made as the outcome of the assistance given by the Indian Central Cotton Committee in the expansion of American cottons which is anticipated to be likely to cover 3 lakhs acres in the present year. The Sub-Committee notes with approval the attention which is being given to *Sea Island* and *Boss III* 16 cottons and the very promising results which have till now been secured.

Madras (Tiruppur) & Co. 2. (No. 61).—In 1933-34, out of the 1,106,700 lb. of pure Co. 2 seed, obtained from the seed multiplication area of 4,122 acres, about a third had to be discarded. The remaining was distributed for sowing in 1934-35 on an area of about 29,600 acres.

The seed farm area of 5,152 acres in 1934-35 is not likely to yield more than 500 lb. of *kapas* per acre due to unfavourable season. In view of the unsatisfactory position brought about by the lack of co-operation between the Agricultural Department and the Co-operative Society, the Sub-Committee recommends that the matter be discussed by the Director of Agriculture, the Secretary and the parties concerned, and reported to the Sub-Committee in due course.

Extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar. (No. 62).—During the year under report, the Agricultural Department distributed 3,099 *khandies* of pure seed of long staple varieties. This quantity

is enough to cover an area of about 110,000 acres, 5,277 *khandiez* of pure seed have been stocked for distribution in 1935-36 season.

5,744½ bales of pure cotton which came into the pool were disposed of at a premium, ranging from Rs. 13.34 to Rs. 90, the average premium for the whole lot being Rs. 62.3 per *khandy* over Broach and Rs. 82 over *Oomras* F.O.R. Bombay basis.

The Sub-Committee notes that there is no evidence in the report of any concrete estimate of the area to be covered year by year or of the process by which this is being worked up and it is suggested that this should be indicated in future reports.

Hyderabad. (No. 63).—Though the total quantity of *Jayawant* and *Upland* seed distributed during the year amounted to 487,782 lb., for want of rains at the time of sowing, only a portion of this seed could be sown. The area covered during the year was 6,370 acres as against 17,000 acres during the previous year.

In view of the inability of the present scheme to cover the area required with pure seed, it is suggested that more area should be controlled. This would be best got by purchase of pedigree seed to sow 13,000 acres per annum. The scheme would require certain remodelling, though according to experience in other tracts, the staff as operating in the scheme appears sufficient to control the work required.

Baroda (Navsari Seed Storage). (No. 64).—During the year under report 1027 A.L.F. covered an area of about 20,230 acres including the seed multiplication area of 5,382 acres.

Unfortunately the first year of this scheme has been marked by the occurrence of a serious frost which has given a very definite setback to the spread of 1027 cotton. It is suggested that developments should be carefully watched. The intention of the State to introduce legislation prohibiting *Goghari* cotton is a correct step and should prove most useful.

The Baroda Government should be asked to open a farm for the production of selfed seed.

B.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON EXTENSIONS AND MODIFICATIONS OF OLD SCHEMES.

(1) *Agricultural Research.*

Survey of cotton in Rohilkhand and Bundelkhand, United Provinces.—Some doubt was expressed as to whether the completion of the survey in the remaining areas was likely to be worth the cost. However, because these areas were isolated from each other and from contact with outside sources of seed and because all or most of the cotton grown in them was hand-ginned, the Sub-Committee thinks the completion of the survey is desirable, lest valuable indigenous types should escape notice. The Sub-Committee recommends the reduction of item 1 of the Budget to Rs. 750, that sanction should be given to a maximum expenditure of Rs. 3,200 and that the Director of Agriculture, United Provinces, should be given opportunity to elucidate the apparent discrepancy between the six months' extension asked for and the longer duration of items 2, 7, 8 and 9 of the Budget, the Standing Finance Sub-Committee then to decide for what period the desired extension should be made.

Bikaner Gang Canal Scheme.—The Sub-Committee recommends that the scheme be referred back for eliciting the opinion of Mr. Hutchinson where a sub-station for genetical studies should be located. The comparative merits and costs of having this sub-station at Ganganagar or at any other place should also be stated.

(2) *Seed Distribution and Extension.*

Jayawant and Gadag No. 1 cottons. (No. 80).—The revised scheme submitted by the Director of Agriculture, Bombay Presidency, entails an expenditure of Rs. 2,66,772 for five years from which it is estimated that a saving of Rs. 88,332 on unspent balances would be available. The net grant required, therefore, under this head is estimated at about Rs. 1,78,440 over a period of five years. The Sub-Committee agrees that, if the good work done regarding the schemes in progress till now at Hubli and Gadag, is not to be allowed to fall off, the scheme on the lines approximating what is now suggested by the Director of Agriculture requires to be sanctioned by this Committee. The Sub-Committee realises that the experience of the Government Department in Hubli and Gadag till now has not been as satisfactory as it might have been. What the Director of Agriculture appears to have done is to benefit by this experience and to try to eliminate the unsatisfactory

factors as far as possible by substituting a wider range of channels through which to work. If the scheme is carried on for a further five years, as suggested, the new seed which appears to have appealed to the cultivators and the purchasers in these areas will take firm root, and the Committee would be well advised in sanctioning this further expenditure for a period of five years.

In this connection the Secretary has dealt exhaustively with the various points to which he felt that the attention of this Sub-Committee should be drawn. The Sub-Committee has gone through each one of the points raised by the Secretary very carefully with the Director of Agriculture and the Deputy Director of Agriculture, S. D., and is satisfied that these do not provide reasons against the financing of the scheme. At least one of the points mentioned by the Secretary is accepted by the Director of Agriculture (paragraph 7). In regard to the other points the attention which is drawn to the Government share in this experiment is more technical than real. It is true that the Government of Bombay may be said to be not directly sharing the expenses of this scheme, but, on the other hand, the Director of Agriculture informs us that if this Committee resolved to drop the scheme now under consideration, the Government would not be inclined to keep the staff at the strength they have at present.

The Sub-Committee feels that if a very strict view is taken regarding Government sharing the cost of this experiment, the scheme is likely to be delayed for a very long time, if not dropped altogether, and the good work done by this Committee till now in this area would be very seriously handicapped.

Regarding paragraph 8 of the Secretary's note, we suggest that the subsidy should be given on the quantity of seed sown, with a margin of 10 percent. If 10 per cent. more seed is reported to have been stocked, Should it happen that owing to want of rain or any freak of nature seed is not sold the subsidy may be paid that year on the quantity of seed stocked.

Regarding paragraph 11 of the Secretary's note, the rate of interest of 5 per cent. proposed to be charged by the Government of Bombay is not high, bearing in mind that the Committee themselves named the same rate of interest when they advanced this money.

Regarding page 5 of the letter of the Director of Agriculture (Appendices 1 and 2), there is scope for unsatisfactory persons or societies being found among those intended to be introduced under the new conditions, indicated in these two appendices. The terms suggested in these two appendices would enable the Agricultural Department to have a better control over the respective agencies. In view, however, of experience upto now, the Sub-Committee recommends the Committee to make it one of the conditions of the grant, that, although under normal circumstances the grant may be continued for a period of five years, if the Committee are satisfied at any stage that the control exercised by the Government Department, is not satisfactory, the Committee would be entitled to end, without any notice, their grant to such part of the scheme as was in the opinion of the Committee defective.

C.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW SCHEMES.

Seed Distribution and Extension.

B. D. 8 Cotton in Broach District. (No. 65).—After due consideration the Sub-Committee decided to recommend the scheme provided the finances of the Indian Central Cotton Committee are able to meet it. They are of the opinion that *B. D. 8* cotton has been advanced to such a stage by the Department that it is desirable that it should be given the wider trial requested in the scheme.

Long staple cotton in Bengal. (No. 66).—The Sub-Committee thinks that it is too early to make any recommendations as to the variety of cotton to be extended. The scheme should be referred back to the Director of Agriculture, Bengal, to make preliminary trials before deciding on the variety to be extended.

D.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON RESEARCH STUDENTS AND TECHNOLOGICAL ASSISTANTS.

The Sub-Committee considered and approved the progress reports and programmes of work of the following research students :—

- (1) Mr. C. Jagannatha Rao, under training in Cotton Physiology under Dr. T. Ekambaram.

- (2) Mr. G. B. Patel, taking an advanced course in Cotton Breeding in U.S.A. and Trinidad.
- (3) Mr. Nazir Ahmed, under training in Entomology at the London University under Prof. J. W. Munro.
- (4) Mr. S. S. Verma, under training in Plant Physiology at London under Prof. Blackman.
- (5) Mr. Tashkir Ahmed, who was under training in Entomology at Cambridge under Dr. A. D. Imms.

The Sub-Committee also approved of the final reports of Mr. S. N. Venkatraman, who underwent training in Statistics at Calcutta under Prof. Mahalanobis, and of Mr. Shama Iyengar, who undertook a study tour in Egypt and Hungary.

The progress report of Mr. Tashkir Ahmed was recorded.

As a general principle to be followed in future, the Sub-Committee recommends that the reports of research students should be accompanied by a report of the officers under whom they are working, and that such reports should in future be called for.

The Sub-Committee recommends the proposed extension of Mr. C. Jagannatha Rao's training grant for one year, the actual amount of scholarship to be given being left to the decision of the Standing Finance Sub-Committee, in consultation with Dr. Ekambaram.

The Sub-Committee also approved the programme of work of Dr. K. B. Lal, under training in Cotton Entomology at the Agricultural College, Lyallpur.

Report of the Agricultural Research Sub-Committee on Technological Assistants.

The reports on the work of Technological Assistants at Lyallpur, Coimbatore, Dharwar and Surat were considered and approved subject to the following remarks :—

(a) *Dr. K. R. Sen, Technological Assistant, Lyallpur.*—The Sub-Committee agrees with the comments of the Director, Technological Laboratory, on this Assistant's work. As regards the question of fees, there appears to be a misunderstanding as these samples were supplied by the mill for the convenience of the Cotton Research Botanist and no report was made to the mill. This was not therefore a trade test.

(b) *Mr. R. L. N. Iyengar, Technological Assistant, Coimbatore.*—The Sub-Committee agrees with the comments of the Director, Technological Laboratory.

(c) *Mr. H. R. Naik, Technological Assistant, Dharwar.*—The Sub-Committee agrees with the comments of the Director, Technological Laboratory, in regard to the general work done and the number of fibres to be examined for maturity in future. It also agrees that the examination of fibre qualities of *Jayavant* cotton in these three areas will be useful. It does not think that the work of the quality of cotton grown with various doses of farm yard manure is likely to lead to practical results in view of the negative results obtained in other parts of India. This item might be dropped. The Sub-Committee also agrees that this Assistant should not attempt an investigation on the effect of storage of *kapas* on lint quality.

(d) *Mr. Sri Nagabhushana, Technological Assistant, Surat.*—The Sub-Committee agrees with the Director, Technological Laboratory's comments, except that relating to the use of "modal percentage" as a criterion of staple length. It does not think that this Technological Assistant is in a position to undertake this study and, if it is to be done at all, it should be undertaken at the Technological Laboratory. The Laboratory possesses the results of a large number of Balls Sorter tests on cottons on which spinning tests have also been made. It would be worth while examining these as a preliminary.

E.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON THE POSSIBILITY OF GROWING LONG STAPLE COTTON IN THE PRESENT SHORT STAPLE COTTON AREAS OF INDIA.

In compliance with the wishes of the Special Sub-Committee to consider the question of a wider market for Indian cotton, the Agricultural Research

Sub-Committee examined the possibility of growing long staple cotton in the present short staple cotton areas of India. The conclusions reached by the Sub-Committee are summarised below :—

Bombay Presidency (including Baroda State).

(1) *Dholleras Tract*.—This vast area covering the whole of Kathiawar and northern part of Gujerat has not been studied. It is therefore recommended that the possibilities of replacing the existing short staple *Mattheo* of this tract and of improving the quality of *Wagad* should be investigated without delay.

(2) *Broach Tract*.—(a) *Surti Area*.—It is already a long staple cotton area and schemes for the extension and maintenance of the quality of 1027 A.L.F. grown in this tract are working.

(b) *Broach Area*.—It is hoped that a medium staple cotton suitable for this tract will be produced in the Broach Cotton Breeding Scheme. A new strain B.D. 8 has been produced and its distribution commenced.

(3) *Khandesh Tract*.—*Banilla* which is being extended in this tract under the scheme financed by the Committee, is much superior to ordinary Khandesh. It is hoped that the Jalgaon Cotton Breeding Scheme will be able to put forward a more suitable medium staple cotton for this tract.

(4) *Barsi-Nagar Tract*.—Information regarding this tract is lacking. *Banilla* has been found suitable for the Deccan Canals area. The *Verum* types now being introduced in the Central Provinces and Berar should be tried in the rest of the tract.

(5) *Kumpta-Dharwar Tract*.—A large scale scheme for covering this tract with *Jayawant* and *Gadag 1* cottons has been approved by the Sub-Committee at this meeting.

(6) *Bijapur Tract*.—The Imperial Council of Agricultural Research might be requested to include experiments with *Northerns* and *Westerns* cottons in their investigations on dry cultivation. A solution of the problem confronting the successful growing of medium and long staple cottons in this tract may be found in this way.

Madras Presidency.

(1) *Tinnevellies Tract*.—Two strains of improved *Karunganni*, C. 7 and A. 10, are available and can be extended in this tract.

(2) *Cambodia Tract*.—This is already a long staple cotton tract.

(3) *Salems Tract*.—Improved strains of *Uppam* will shortly be available as a result of the Madras Herbaceum Scheme.

The improvement of *Nadam* cotton is being tackled in the Nadam Cotton Breeding Scheme.

The question of the improvement of *Poonam* cotton is under consideration, and a scheme is being worked out.

(4) *Westerns and Northerns Tract*.—Breeding experiments are under way with a view to evolving a superior strain of *mungari* cotton.

(5) *Cocanadas Tract*.—Work is in progress to evolve superior strains of *Cocanadas* cotton.

(6) *Ganjam-Vizagapatam Tract*.—Nothing has been done so far. The Agricultural Department hopes to take up this problem as soon as possible.

Hyderabad State.

(1) *Gaorani Area*.—One or two strains of better-linted, higher-yielding *Gaorani* are under trial.

(2) *Oomra Tract*.—Experiments are in progress with a view to evolving a strain suitable for this tract, and spinning up to 20's counts.

(3) *Raichur Area*.—*Jayawant* and *Gadag 1* seeds are being distributed in this area.

(4) *Westerns Tract*.—There is no medium staple cotton suitable for this tract in view. If the dry cultivation experiments referred to under “Bijapur Tract” are successful it may be possible to introduce a better variety in this tract.

(5) *Warangal Tract*.—Nothing except preliminary experiments have so far been made.

Central Provinces and Berar.

Long or medium staple cottons suitable for each tract in this province are on hand, awaiting successful extension.

Central India and Rajputana.

(1) *Malwi Tract*.—*Malwi* selections made at the Institute of Plant Industry, Indore, are available. They are an improvement on the local *Malwi*.

(2) *Nimar Tract*.—Neither *Banilla* nor *Verum* is suitable for this tract. An improved variety will have to be evolved from indigenous varieties.

(3) *Bundelkhand-Baghelkhand Tract*.—There is no medium or long staple cotton at present known to be suitable for this tract.

(4) *Rajputana Tract*.—A medium or long staple cotton suitable for the whole tract is not known.

Punjab.

The new strain 43-F evolved in the Punjab Botanical Scheme is about an inch in staple-length and is suitable for the whole of the Canal Colony. Another new strain, *Million Dollar* cross, is considered to be much superior and can displace *desi*.

Sind.

The recent vast increase in the area put to cotton in Sind is almost all of American cotton, the two types in favour being two improved strains of 4-F and 289-F, which are definitely of medium and long staple respectively. Under favourable conditions superior long staple cottons such as *Boss III-16*, *Ashmouni 37* and *Sea Island 2-4* can be grown. It may not be possible to get rid of *Desi* cotton for the present.

United Provinces.

There is no hope of improving the quality of cottons grown in the United Provinces without adequate protection against the ravages of the pink boll-worm pest. Once this pest is controlled it would be possible to tackle the problem of improvement of quality.

Bengals.

A long or medium staple cotton suitable for Bengal is not known.

F. GENERAL.

(1) *Scheme for the formation of Zamindara Co-operative Societies for the sale of all farm crop produce in the Punjab*.—As there is no hope of this scheme being put into operation, the Sub-Committee recommends that the grant of Rs. 5,000 per annum for three years made for it may be withdrawn.

(2) *Proposed publication of the research work done on balanced fertilisers in connection with the Dharwar Wilt Scheme*.—The Sub-Committee considered a request from Dr. B. B. Mundkur asking for permission to publish the work done by him on balanced fertilisers when he was employed as the Senior Assistant on the Committee's Dharwar Cotton Wilt Research Scheme. The Sub-Committee did not see its way to agree to this request.

(3) *Requests from officers working in the Committee's Research Schemes to visit similar schemes in other provinces*.—The Sub-Committee recommends that the following officers may be permitted to visit the places noted against their names:—

The Economic Botanist (Cawnpore) to visit Indore,

the Cotton Specialist (Coimbatore) to visit Lyallpur, Indore, Nagpur, Parbhani and Surat,

the Government Entomologist (C. P.) to visit Akola,
the Cotton Breeder (Jalgaon) to visit Nagpur, Parbhani and Indore,
the Cotton Breeder (Broach) to visit Indore,

subject to the condition that the expenditure can be met from within the sanctioned grant for the respective schemes.

(4) *Proposal to hold meetings in India on cotton growing problems on lines of those arranged for by the Empire Cotton Growing Corporation.*—The Sub-Committee recommends that a conference of scientific workers on cotton be arranged for to be held in Bombay soon after the 1936 monsoon meeting of the Committee. If this recommendation is accepted a small Sub-Committee may now be appointed to work out the details.

(5) *Proposed construction of a glass house in the Baroda Root Rot Scheme.*—The Sub-Committee approved of the construction of a glass house in the above scheme at a cost of Rs. 4,000, the cost being met from savings in the scheme.

(6) As a general rule, the Sub-Committee recommends that material alterations in the original programmes should receive Committee's sanction before work is undertaken.

(7) The Sub-Committee approved of the proposal to change the headquarters of the Inspector, Variety Testing Stations, from Nanded to Latur, as he could be more usefully employed and had better facilities for carrying out his work at Latur.

(8) *Co-ordination of the Hyderabad Pink and Spotted Boll-worm Scheme and the Central Provinces and Berar Entomological Scheme.*—The Sub-Committee approved of the programme of work for the coming season.

APPENDIX XI.

SUBJECT 68.—*Report of the Standing Finance Sub-Committee.*

- (a) Balance Sheet as at 31st March 1935.
- (b) Final Accounts, 1934-35.
- (c) Revised Estimates, 1935-36.
- (d) Budget for 1936-37 (Government servants).

Four meetings of the Sub-Committee were held since the meeting of the Indian Central Cotton Committee in February 1935. Mr. H. B. Moore having retired, his place on the Sub-Committee was taken by Mr. M. Durutti, and on the latter's resignation Mr. A. A. Sarantides took his place.

2. A Balance Sheet of the Committee's accounts as at 31st March 1935 is submitted. This shows the income and expenditure under the budget heads from the beginning of the cotton cess, i.e., for twelve years, and has been prepared from the audited accounts. A Balance Sheet* of the Provident Fund is also enclosed.

3. A statement of accounts* for the year 1934-35 as audited by the Committee's Auditors is attached, together with the detailed Final Accounts.* From this it will be seen that cotton cess receipts reached the total of Rs. 7,33,553-14-1 against a revised estimate of Rs. 6,90,000. Interest on investments amounted to Rs. 1,31,942-5-7 against Rs. 1,33,150 estimated while expenditure came to Rs. 9,71,622-11-8 against the revised estimate of Rs. 13,57,585-8-0. There were savings under practically every head of expenditure and these are available for future use, if required, except the savings under "Administration," "Improvement of Cotton Marketing," "Printing and Propaganda," "Technological Laboratory—Working" and "Research Studentships." The Closing Balance on the 31st March 1935 was Rs. 26,52,020-8-3 against Rs. 27,49,659-14-7 last year, the amount spent from the reserve being Rs. 97,639-6-4.

A statement of the Provident Fund Account* for 1934-35 is also enclosed.

* Not printed.

4. The Revised Estimates* of Receipts and Expenditure for the current year are enclosed and are subject to alterations recommended by the Agricultural Research Sub-Committee and approved by the full Committee. No change has been made in the estimates for cotton cess. The estimate under interest has been raised by Rs. 6,862 owing to lower expenditure in 1934-35 than budgetted for. Under Miscellaneous Receipts the increase of Rs. 2,06,116 represents the gross profit realised by the sale of 3½ per cent. Government Promissory Notes of the face value of Rs. 7,06,300. Expenditure has been estimated at Rs. 12,92,480 against the sanctioned budget estimates of Rs. 12,39,375, the increase of Rs. 53,105 being chiefly due to the re-allotment of Rs. 37,775 under Technological Laboratory—Capital Expenditure—and to additional requirements under various schemes.

5. As required by the Cotton Cess Rules, the Budget for 1936-37 for the pay of Government Officers and other permanent Government servants employed by the Committee is submitted for formal sanction.

6. The Sub-Committee also dealt with the Government accounts for 1934-35 for the fumigation of American cotton and its recommendations form a separate subject on the agenda of the Committee.

7. The Sub-Committee, at its meeting held on the 18th May 1934, appointed on the recommendation of the Expert Sub-Committee constituted according to the Cotton Cess Rules, Prof. R. H. Dastur, Professor of Botany, Royal Institute of Science, Bombay, as Plant Physiologist in charge of the Punjab Physiological Research Scheme on Rs. 900-40-1,060 for five years, but the Government of India sanctioned the appointment on a reduced scale of pay of Rs. 850-40-1,010. Prof. Dastur joined his new appointment at Lyallpur on the afternoon of the 14th March 1935. In view of the lower scale of pay sanctioned by the Government of India, Prof. Dastur requested that he might be permitted to draw his first increment in his new post on the 20th June 1935, i.e., the date on which his increments in the Bombay Educational Service fall due, instead of on the 15th March 1936, when in the ordinary course he would be entitled to his first increment in his new post. This was agreed to with the concurrence of the Government of India on the condition that Prof. Dastur would continue without increment from the 20th June 1938 till the termination of his present five-year sanctioned period of appointment.

8. The Sub-Committee at its meeting held in October 1932 fixed the basic pay of the Secretary of the Committee at Rs. 1,600-50-1,800 plus overseas pay, if admissible, plus a house rent allowance of Rs. 150 with the proviso that the present Secretary should draw a house rent allowance of Rs. 250 per mensem as he was drawing the allowance at this rate when officiating as Secretary and even as Deputy Secretary. The Government of India, however, sanctioned the following terms for the present Secretary :—

Pay.—As in the time-scale for Indian Agricultural Service, (i.e., Rs. 900-50-1,100 for five years).

Overseas pay Rs. 300 p.m.

Special pay Rs. 400 p.m.

House rent allowance Rs. 250 p.m.

Total .. Rs. 1,850-50-2,050.

Since the pay as sanctioned by Government was less by Rs. 300 p.m. than what was recommended, the Sub-Committee at its meeting held in January 1933 decided that the terms should be reconsidered and revised if the new scale of pay fixed for Provincial Directors of Agriculture was higher than the terms sanctioned for the present Secretary. The new scales of pay since sanctioned for the post of Directors of Agriculture in the Bombay and Madras Presidencies are as follows :—

Bombay.—Rs. 1,500-100-1,700 for persons appointed after 4th August 1931 and for members from the Bombay Provincial Service, Classes I and II.

Madras.—Rs. 1,200-100/2-1,400.

The above scales, however, do not affect members of the Indian Agricultural Service (to which the Secretary belongs) who, if appointed to these posts, would

draw Rs. 2,000-50-2,250, with overseas pay, if admissible. In view of the above decision, the Sub-Committee reconsidered the question of the terms of pay sanctioned for the present Secretary and unanimously passed the following resolution :—

“The Vice-President is requested to get in touch with the President and intimate to him that at the meeting of the Standing Finance Sub-Committee to-day, the members unanimously approved of approaching the Government of India with a request that the basic pay of Mr. Rama Reddi as Secretary to the Indian Central Cotton Committee be fixed as already decided at the 117th meeting of the Standing Finance Sub-Committee on the 14th October 1932 at Rs. 1,600-50-1,800 *plus* Overseas Pay of Rs. 300 *plus* House Rent allowance of Rs. 250 per mensem. If the President agrees with this resolution, he is authorised to address the Government of India to that effect, on behalf of the Indian Central Cotton Committee.”

9. The announcement of the Government of India to discontinue the 5 per cent. cut in the salaries of its employees beyond the 31st March 1935 was considered by the Sub-Committee at its meeting on the 15th March 1935 and it was decided that the salaries of servants of the Committee should continue to be subject to the cut pending a final decision by the full Committee at its next meeting. In view, however, of representations received from certain provinces pointing out that the Committee's cut could not be imposed on Government servants working in its schemes whose salaries under the orders of the Local Government were exempt from the cut, the Sub-Committee at its meeting on May 4th decided, in order to avoid discrimination, that the cut should not be imposed on its employees except in those provinces where the Local Government had not restored the cut.

10. The Sub-Committee considered a resolution of the Government of India, Home Department, on the subject of communal representation in Government service and decided that the present policy of the Committee in appointing the best men available under the Committee, irrespective of communal considerations, should be continued.

11. The Sub-Committee considered the question of listing in order of priority of starting new and extended schemes sanctioned by the Committee at its last meeting, and decided that the following schemes should be continued without break :—

Punjab Botanical Research Scheme,
Punjab Root Rot Scheme,
Punjab Spraying Trials Scheme,
Madras Herbaceum Scheme,
Institute of Plant Industry, Indore,
Hubli Seed Distribution Scheme, and
Gadag Seed Distribution Scheme.

It was also decided that the scheme for Investigation into Red Leaf Disease on *Doddahathi* cotton in Mysore and the C.402 Seed Distribution Scheme in the United Provinces might be started any time after the 31st March 1935. The Sub-Committee further decided that the Haveri and Bailhongal Seed Distribution Schemes, which had not yet started, should be left for the present undisturbed.

12. In the course of the discussion at the last meeting of the full Committee on a letter from the International Federation of Master Cotton Spinners' and Manufacturers' Associations regarding the system of marking bales, the question of direct representation of the Committee on the Federation was raised and it was decided that the Standing Finance Sub-Committee should settle the question in consultation with other local bodies. The Sub-Committee accordingly considered the subject at three of its meetings. As decided at the second meeting, the Vice-President wrote to Sir Richard Jackson, Chairman of the Lancashire Indian Cotton Committee, with the object of ascertaining whether it would be possible for the Committee to obtain representation, and in his reply Sir Richard Jackson stated that as the International Federation was a Federation of Employers' Associations of spindles and looms, it did not provide for the membership of any other persons and hence the Indian Central Cotton Committee was not eligible to nominate a member on the Committee of the International Federation. It was suggested, however, by Sir Richard Jackson that the Federation should send a copy of the agenda of its meetings to the Committee and if there was any subject affecting the latter, it could send a

representative to the meeting of the Committee of the Federation or forward its opinion by letter. The Sub-Committee at the third meeting considered and approved the suggestion of Sir Richard Jackson.

13. In view of the Resolution passed by the Committee at its last meeting appreciating the services rendered by Major W. Ellis Jones in connection with the grading and valuing of cotton samples received for tests at the Technological Laboratory, the Sub-Committee decided to present Major Ellis Jones with a silver salver costing about Rs. 200.

14. The Sub-Committee sanctioned an additional sum of Rs. 1,800 being the share of the Committee towards the extra expenditure required for annual increment and travelling allowance of the Chief Economist in charge of the Scheme of enquiry into the cost of production of crops in the principal cotton and sugarcane tracts in India, undertaken jointly with the Imperial Council of Agricultural Research. The Government of India have since accorded their sanction to this additional expenditure.

15. In view of the new rule passed by the Government of India requiring Government servants to travel by the class of accommodation for which travelling allowance is admissible to them, the Sub-Committee decided that servants of the Committee should certify that they actually travelled by rail or steamer by the class for which travelling allowance is claimed by them, and that no such certificate need be called from non-official members.

16. On a representation from a firm of importers that the weight limit of round bales of American cotton for fumigation purposes should be raised from 270 lb. to 280 lbs. owing to the fact that their round bales exceeded 270 lb. in weight in consequence of which fumigation charges at the square bale rate had to be paid, viz., Rs. 2-7-0 instead of Re. 1-13-0, the Sub-Committee decided that sufficient grounds for raising the weight limit did not exist.

17. The Sub-Committee re-appointed Sardar Rao Bahadur Bhimbhai Ranchodji Naik as the Committee's representative on the Imperial Council of Agricultural Research for a further period of three years with effect from the 4th May 1935.

18. The Sub-Committee considered the question of the payment of travelling allowance to Prof. R. H. Dastur, Plant Physiologist, Punjab Physiological Scheme, while on duty, and decided that as Prof. Dastur was entitled to first class railway fare in the Bombay Presidency as a member of the Bombay Educational Service, Class I, he should be allowed accommodation by the same class whilst touring in the Punjab.

19. The Committee at its last meeting recommended the extension of the appointment of Mr. R. D. Mihrs as Publicity and Propaganda Officer of the Committee for a period of three years from the 1st June 1935 on a scale of Rs. 1,000-50—1,100 plus a house rent allowance of Rs. 75 p.m., but the Government of India sanctioned the extension of the appointment for a period of three years on a reduced scale of pay, viz., Rs. 950—1,000—1,000 plus a house rent allowance of Rs. 75 p.m. The Sub-Committee considered the letter from the Government of India and decided that if a representation were to be made to the Government of India against their orders it was desirable to have a decision to this effect passed by the full Committee at this meeting of the Committee. The subject is accordingly dealt with as a separate item on the agenda.

20. The Sub-Committee considered and approved of the proposals of the Director of Agriculture, Bombay Presidency, for the transfer of the wilt testing work from Broach and Jalgaon to Poona at an additional cost of Rs. 3,200 non-recurring and Rs. 360 recurring, to be met from savings.

21. The Sub-Committee granted permission to Dr. Nazir Ahmad to serve as a member of the Court of Muslim University, Aligarh, and he was also permitted to accept the appointment as an Ordinary Fellow of the Bombay University as the nominee of His Excellency the Chancellor.

22. The Sub-Committee granted permission to the Secretary to serve as a member of the Committee of the Bombay University to inspect the College of Agriculture, Poona.

23. Against a sum of Rs. 1,000 provided by the Committee for the celebration of the Tenth Anniversary of the Technological Laboratory, the Sub-Committee

sanctioned a sum of Rs. 700 to meet the actual expenditure involved. The Anniversary synchronised with the completion of the extension of the Technological Laboratory building and the erection of new machinery, motors and equipment. The extensions were completed in all respects on the 25th May 1935 and were formally opened on the 29th May 1935 in the presence of the President, the Vice-President, local members of the Committee and prominent representatives of the trade and industry. The visitors were taken round the different sections and were later served with light refreshments. A capital expenditure of Rs. 43,600 was sanctioned for the extensions; the estimated expenditure is Rs. 39,907 of which Rs. 38,109 have already been paid.

24. In compliance with the Resolution of the Committee passed at its meeting in August 1934, the Rules of the Institute of Plant Industry, Indore, were amended in order to provide that "the membership of the Governing Body of the Institute shall vary with the ratio between the subscription received from the Committee and the total subscriptions received from the contributing Indian States in the preceding financial year." Under the amended Rule, the Committee is entitled to appoint seven more members in addition to the present five members, to the Board of Governors for the year ending March 1936 and the Standing Finance Sub-Committee at its meeting held on the 5th August selected the following :—

1. Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
2. Mr. S. D. Saklatvala,
3. Mr. J. Vonesch,
4. Mr. G. C. R. Coleridge,
5. Rao Bahadur G. R. Kothare,
6. Mian Nurullah, and
7. Dr. W. Burns.

25. In December 1931, the Government of India communicated a ruling of the Auditor General as a result of which the Committee's grants were treated as provincial revenues. Owing to several administrative difficulties to which the ruling gave rise involving the impairment of the Committee's control of the Cotton Cess fund and of its scientific research staff, the Committee at its meeting in August 1933 decided to ask the Government of India to create special deposit accounts with local Governments into which the Committee's grants were to be credited and which were to be operated by Directors of Agriculture or other provincial officers nominated by the local Governments. The various administrative and financial changes necessitated by the proposed alteration in procedure were communicated to all local Governments receiving grants from the Committee and were accepted by all except Madras. The Government of India sanctioned the Committee's proposals and the new procedure came into effect from the 1st April 1935.

As regards the conditions for the appointment of staff under the altered procedure, the Committee laid down that Directors of Agriculture should exercise the same powers as had been delegated to them by the local Governments in respect of Government appointments and that higher appointments should be made by the Committee in consultation with Directors of Agriculture. The Sub-Committee at its meeting on the 15th March 1935 decided that all appointments carrying a minimum pay of Rs. 200 and over should be treated as "higher posts". As regards the conditions for admission to the Provident Fund, the Sub-Committee at the same meeting decided, that those employees of the Committee who were debarred from contributing to the Fund under the previous ruling of the Government of India should be given the option of subscribing retrospectively to the Fund but that those who had already left the service of the Committee should not be allowed to exercise this option. The Sub-Committee also decided that the Revised Leave Rules of the Government of India applicable to officers on short term contract should be applied to its employees engaged on schemes sanctioned for fixed periods. In respect of expenditure under "Contingencies" the Sub-Committee, at its meeting held on the 5th August 1935, decided that Directors of Agriculture should be delegated the same powers as they enjoy with regard to provincial monies, subject to a maximum limit of Rs. 200 for any single payment in case their powers exceed this limit, and that purchase of apparatus, typewriters and similar machines should require the previous approval of the Committee.

26. The Sub-Committee considered a representation from Mr. Taskhir Ahmad (who was granted a training grant by the Committee for training in Cambridge),

asking that the recovery of his last quarterly instalment amounting to £39-5-7 should be waived. In view of the fact that Mr. Takshir Ahmad had, in violation of the undertaking given by him, applied for and accepted an appointment under the Government of India without the previous consent of the Committee and before the termination of the sanctioned period of his scholarship, the Sub-Committee at its meeting held on the 5th August decided that the total training grant paid to him by the Committee amounting to £288-11-6 should be recovered from him.

27. On the representation of the Director, Technological Laboratory, that he would be adversely affected financially if the opinion of the Committee's Solicitors that the date for the renewal of his agreement should be taken as the 1st September 1934 by the exclusion of the periods spent on leave and deputation from the period of his new agreement, the Sub-Committee at its meeting on the 5th August decided that the date for the commencement of Dr. Ahmad's new agreement should be the 1st April 1934.

APPENDIX XII.

BILL No. of 1935.

A Bill to provide for the prohibition of the cultivation of Goghari cotton and the mixing of such cotton with other cotton and for the prohibition or restriction of the possession or use of, or trade in, Goghari cotton or cotton mixed with Goghari cotton.

Whereas it is expedient in the best interests of the growers of cotton in certain areas in the Presidency of Bombay, the cotton trade and the economic prosperity of the said Presidency to maintain the quality and reputation of the cotton grown in those areas and for that purpose to prohibit the cultivation of *Goghari* cotton and the mixing of such cotton with other cotton and to prohibit or restrict the possession or use of, or trade in, *Goghari* cotton or cotton mixed with *Goghari* cotton;

And whereas the previous sanction of the Governor General required by sub-section (3) of section 80A of the Government of India Act, and the previous sanction of the Governor required by section 80C of the said Act have been obtained for the passing of this Act; It is hereby enacted as follows :—

1. *Short title and extent.*—(1) This Act may be called the Bombay Cotton Control Act, 1935.

(2) It extends to the whole of the Presidency of Bombay.

2. *Definitions.*—In this Act, unless there is anything repugnant in the subject or context :—

(a) "Cotton" includes cotton plant, ginned and unginned cotton, cotton waste and cotton seed ;

(b) "Director of Agriculture" means the officer appointed for the time being to be the Director of Agriculture ;

(c) "*Goghari* cotton" means the kind of cotton known as *Gossypium Herbaceum* (*Variety Goghari*) ; and

(d) "Controlled area" means an area specified in a notification under section 3.

3. *Power to issue notification prohibiting the cultivation, etc., of Goghari cotton.*—The Local Government may, by notification in the *Bombay Government Gazette*, in such local area and for such period as may be specified in the notification :—

(a) prohibit the cultivation of *Goghari* cotton ; or

(b) prohibit the mixing of *Goghari* cotton with any other cotton ; or

(c) prohibit or restrict the possession or use of, or trade in, *Goghari* cotton or any other cotton mixed with *Goghari* cotton.

4. *Penalty.*—Any person, who, in contravention of the provisions of this Act or of any notification issued under section 3 or rule made under section 14 :—

(a) cultivates or attempts to "cultivate *Goghari* cotton" shall, on conviction, be punishable with fine which may extend to rupees twenty for every first offence and to rupees fifty for every subsequent offence ;

(b) (i) mixes or attempts to mix *Goghari* cotton with any other cotton, or

(ii) possesses, uses or trades in, or attempts to possess, use or trade in, *Goghari* cotton or any other cotton mixed with *Goghari* cotton,

shall, on conviction, be punishable with fine which may extend to rupees five hundred for every first offence and to rupees one thousand for every subsequent offence.

5. *Confiscation*.—Whenever an offence under this Act has been committed, all cotton in respect of which the offence has been committed and every box, receptacle, package or covering in which such cotton is contained shall be liable to confiscation.

6. *Procedure in confiscation*.—(1) When in any case tried by a Criminal Court, the Court decides that anything is liable to confiscation under section 5, he may, after hearing the person, if any, claiming any right thereto and the evidence, if any, which he produces in support of his claim, order confiscation.

(2) When an offence under this Act has been committed and the offender is not known or cannot be found or when anything liable to confiscation under this Act is found and is not claimed by any person, the officer authorised by the Local Government in this behalf may hold an inquiry and may order confiscation :

Provided that no such order shall be made before the expiration of one month from the date of seizing the thing liable to confiscation or without hearing the person, if any, claiming any right thereto and the evidence, if any, which he produces in support of his claim.

7. *Compounding*.—(1) The officer authorised under sub-section (2) of section 6 may accept from any person who is reasonably suspected of having committed an offence under section 4, a sum of money as may be prescribed by rules made under section 14 by way of composition for such offence.

(2) On payment of such sum, such person, if in custody, shall be set at liberty and if proceedings in any Criminal Court have been instituted against such person in respect of such offence, the composition shall be deemed to amount to an acquittal and no further proceedings shall be taken against such person in respect of such offence.

(3) Notwithstanding anything contained in sub-section (2), it shall be lawful for the Court or the officer authorised under sub-section (2) of section 6 to order confiscation of anything liable to confiscation under section 5.

8. *Power of entry and seizure*.—(1) Any officer authorised in this behalf by the Local Government may between the hours of 6 a.m. and 6 p.m.—

(a) enter upon any land in a controlled area in which he knows or has reason to believe that *Goghari* cotton has been or is being cultivated in contravention of a notification under section 3, uproot or cause to be uprooted such cotton, and seize the cotton so uprooted ; or

(b) enter upon or into any land, building, ship, vessel, vehicle or place in a controlled area in which he knows or has reason to believe that *Goghari* cotton or any other cotton mixed with *Goghari* cotton is kept in contravention of a notification under section 3, and seize such cotton.

(2) Every officer seizing any cotton under this section shall forthwith :—

(a) make a report of such seizure to any nearest Magistrate of the First or Second Class having jurisdiction to try the offence committed in respect of such cotton, specifying in such report the particulars of such cotton, and furnish a copy of such particulars to the occupier, or person in charge of the land, building, ship, vessel, vehicle or place on or in which such seizure was made, and

(b) subject to rules made under section 14 forward such cotton to the nearest officer authorised by the Local Government to receive it, for examination and for report to the Director of Agriculture.

(3) The opinion of the officer authorised under sub-section (2) regarding such cotton recorded in any document signed by such officer shall be evidence as to the nature of such cotton in any inquiry, trial or proceeding under this Act.

9. *Duty of owner, occupier and person in charge to give facilities for inspection by authorised officer*.—(1) Every owner, occupier or person in charge, of any land,

building, ship, vessel, vehicle or place shall give all reasonable facilities to the officer, authorised under sub-section (1) of section 8, to inspect such land, building, ship, vessel, vehicle or place.

(2) Any person who contravenes the provisions of sub-section (1), shall, on conviction, be punishable with fine which may extend to rupees twenty.

10. *Previous sanction and limitation for prosecution.*—No prosecution under this Act shall be instituted without the previous sanction of the Director of Agriculture.

11. *Cognizance of offences.*—No criminal court inferior to that of a Presidency Magistrate or a Magistrate of the Second Class shall try any offence under this Act.

12. *Protection for acts done under the Act.*—No suit, prosecution or other legal proceeding shall be instituted against any person for anything which is in good faith done or intended to be done under this Act.

13. *Officer acting under the Act to be public servant.*—Every officer acting or purporting to act in pursuance of the provisions of this Act shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code.

14. *Rules.*—(1) The Local Government may make rules not inconsistent with the provisions of this Act for the purpose of carrying into effect the purposes of this Act.

(2) In particular and without prejudice to the generality of the foregoing provision, the Local Government may make rules for all or any of the following purposes, namely :—

(a) to prescribe the sum of money to be paid by way of composition under section 7 ;

(b) to prescribe the conditions subject to which cotton seized may be forwarded under section 8 ;

(c) any other matter which is to be or may be prescribed.

(3) Any such rule may provide that a contravention thereof shall be punishable with fine which may extend to rupees fifty.

(4) The rules made under this section shall be subject to the condition of previous publication in the *Bombay Government Gazette*.

(5) Rules made under this section shall be laid upon the table of the Bombay Legislative Council at the session of the said Council next following and shall be liable to be modified or rescinded by a resolution of the said Council and such rule shall after notification of such resolution in the *Bombay Government Gazette* be deemed to have been modified or rescinded accordingly :

Provided that when in the opinion of the Governor in Council such modification or rescission is likely to defeat or frustrate any of the purposes of this Act, the Governor in Council may by notification in the *Bombay Government Gazette* declare that the modification or rescission shall have no effect and thereupon the rules shall remain in force as if they had not been modified or rescinded.

STATEMENT OF OBJECTS AND REASONS.

The protected areas south of the Nerbudda river and more particularly the " South Surat " protected zone grow one of the very best cottons of India known to the trade as " Navsari " cotton (1027 A.L.F.). This cotton is highly appreciated in India as well as in foreign countries (Lancashire) for the reputation of its long and fine staple. It is the policy of the Agricultural Department to cover the whole of the Surat Protected Area with 1027 A.L.F. cotton which by virtue of its superior qualities is much in demand and is therefore a profitable crop to the cultivators. *Goghari* cotton is a distinctly inferior type of cotton but owing to its high yield and higher ginning percentage over the 1027 A.L.F. cotton it is often mixed with the latter as the resultant mixture when sold in the name of pure 1027 A.L.F. cotton gives a better return to the seller. This, however, is due entirely to the high reputation of the 1027 A.L.F. variety of cotton which has been grown in the area for some years now, but should the spread of *Goghari* cotton in the Surat tract continue it will ruin the work of the Agricultural Department, jeopardise the reputation of the 1027 A.L.F. cotton and result in a big drop in price of the cotton. This fall in price will eventually react on the grower who will therefore be the chief sufferer in the long run. All the time, labour and money spent in the introduction and spread

of 1027 *A.L.F.* cotton in this tract, the efforts made to maintain the purity of this cotton by the application of the Cotton Transport Act to this area, the large amount of money spent by the Indian Central Cotton Committee to increase the yield by research into the physiological and entomological aspects of the problem of cotton growing in this tract, would be wasted if adequate steps are not immediately taken to eradicate *Goghari* cotton from the tract. If *Goghari* cotton is allowed to spread in the tract at the rate at which it now does, growers of this area would soon reach the state of 1919 when over a lakh of bales of "Broach" cotton were rejected in Bombay, as not having those qualities which cotton from this tract is supposed to have.

2. The application of the Cotton Transport Act in 1923 to this tract stopped the import of *Goghari* into Surat tract from the north of the Nerbudda river, but the seed of the *Goghari* cotton has continued to be imported. Existence of the *Goghari* cotton has been traced repeatedly in the same tract in the years 1919-20, 1926-27, 1931-32 and 1933-34 and in spite of very serious efforts to distribute large quantities of seed of 1027 *A.L.F.* at a great cost to Government and the Indian Central Cotton Committee, and persuasion of the gin-owners to oust the *Goghari* cotton, this cotton has not only continued to exist in both pure as well as mixed state, but has expanded to a very serious extent. *Goghari* cotton formed 25 per cent. of the total cotton ginned in Navsari in 1933-34. A recent report shows that even during the season 1934-35 a high percentage of *Goghari* mixture has been observed in a number of new villages in Jalalpur Taluka in spite of very intensive campaign against *Goghari* in the previous season. These facts stress the urgent necessity for legislation for the prohibition of the growing and handling of the *Goghari* cotton in the Surat zone, south of the Nerbudda, in the interests of the grower.

3. The leading traders and growers have unanimously agreed to prohibitive action against the *Goghari* cotton in this tract and the present Bill is drafted on the lines of the Madras Cotton Control Act of 1932.

4. The following notes on clauses explain the important provisions of the Bill.

Notes on clauses.

Clause 2.—This is a definition clause.

Clause 3.—This clause gives power to Government to issue notification prohibiting the cultivation, adulteration, and possession of, and trade in, *Goghari* cotton, in certain specified areas.

Clause 4.—This clause provides for penalties for contravention of the provisions of the notification issued under clause 3, and rules made under clause 14.

Clauses 5 and 6.—These clauses empower the confiscation of cotton or any receptacles containing it in respect of which an offence has been committed under the Act.

Clause 7.—This clause enables the compounding of an offence punishable under clause 4. Such compounding does not, however, prevent the confiscation of cotton or other things liable to confiscation under clause 5.

Clause 8.—This clause gives power to officers, authorised by Government, to enter upon lands, buildings, etc., where such officers have reason to believe that provisions of the notifications are violated and to seize *Goghari* cotton whether pure or mixed.

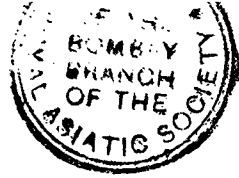
Clause 9.—This clause requires persons in charge of lands, buildings, etc., to give all reasonable facilities to the authorised officers to enter, on pain of penalty of fine.

Clause 10.—This clause provides safeguards against prosecutions under the Act, it provides that every prosecution must be instituted only with the previous sanction of the Director of Agriculture.

Clause 11.—This clause provides that courts inferior to Presidency Magistrates or Magistrates of the Second Class shall not be competent to try offences under the Act.

Clause 12.—This clause provides that persons acting in good faith in pursuance of the provisions of this Act shall not be liable to any action.

Clause 14.—This clause empowers Government to make rules.



Summary Proceedings

of the

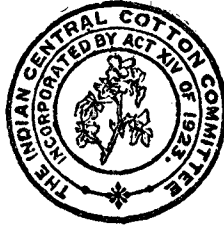
Thirty-third Meeting of the Indian Central Cotton Committee, Bombay,

held on the

17th and 18th August 1936.

Price Re. 1/-

133645



Indian Central Cotton Committee.

With the Secretary's Compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

INDIAN CENTRAL COTTON COMMITTEE.

33RD MEETING—17TH AND 18TH AUGUST 1936.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

AGENDA.	PAGE.
1. Presidential Address.	6
Speech by His Excellency the Governor of Bombay	9
Vote of thanks to His Excellency	12
2. Confirmation of Minutes	12
3. Comments of the Government of India on the Annual Report of the Committee	13
4. Changes in personnel of the Committee and Sub-Committees	13
5. Appointment of cotton growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and Reports of members	13
6. Establishment of regulated cotton markets	13
7. Amendments to the Madras Commercial Crops Markets Act	13
8. <i>Cotton Ginning and Pressing Factories Act.</i>	14
(a) Bombay Amendment Act, 1936.	
(b) Bombay Amendment Act, 1936—Application of —to Sind.	
(c) Central Provinces Amendment Bill.	
(d) Proposed introduction of the system of licensing gins and presses in the Punjab.	
9. <i>Cotton Ginning and Pressing Factories Act—Progress made in Indian States</i>	17
(a) Khairpur State.	
(b) Maliya State.	
10. Restrictions imposed by the Gwalior Durbar on the ginning and pressing of cotton imported into the State	17
11. Amendment of Form 'A' prescribed under Rule 16 of the Indian Cotton Cess Rules, 1923	18
12. Second Annual Report of the Lancashire Indian Cotton Committee—Remarks of members	18
13. Report on the fumigation of American cotton	19
14. Half-yearly Report of the Publicity and Propaganda Officer	19
15. Summary of Proceedings of the Local Sub-Committee	20
16. Provincial Cotton Committees—Proceedings of the Sind Cotton Committee	20
17. Studies of village consumption of cotton—Reports on enquiries	20
18. Publication of monthly statements of cotton pressed in Indian States, in terms of statistical bales of 400 lbs. net	20
19. Report of the Cotton Forecast Improvement Sub-Committee	21
20. Submission of periodical reviews of the state of foreign trade in Indian cotton	21
21. Report of the Special Sub-Committee on Wider Markets for Indian cotton	21
22. Technological Research—Progress Report of the Director. Technological Laboratory	22
23. Technological Research—Report of the Technological Research Sub-Committee	22
24. Agricultural Research—General Progress Report	23
25. Progress Report on Broach Cotton Breeding Scheme	23
26. Progress Report on Jalgaon Cotton Breeding Scheme.	23
27. Progress Report on Madras Herbaceum Scheme	23
28. Progress Report on Madras Nadam Cotton Breeding Scheme	24
29. Progress Report on Bikaner Gang Canal Scheme	24
30. Progress Report on Bengal Comilla Cotton Scheme	24
31. Progress Report on the Punjab Botanical Scheme	25

	PAGE.
32. Progress Report on the Central Provinces Botanical Scheme ..	25
33. Progress Report on Hyderabad Botanical Scheme	26
34. Progress Report on the Punjab Pink and Spotted Boll-worm Scheme. .	26
35. Progress Report on the Punjab White Fly Scheme	27
36. Progress Report on the Central Provinces and Berar Entomological Scheme	27
37. Final Report on the United Provinces Pink Boll-worm Scheme ..	27
38. Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme.	27
39. Progress Report on the Punjab Root Rot Scheme	28
40. Progress Report on Baroda Root Rot Scheme	28
41. Progress Report on Mysore (Doddahathi) Cotton Scheme	29
42. Progress Report on Madras Pempheres and Physiological Scheme ..	29
43. Progress Report on Madras Fodder Cholam Scheme	30
44. Progress Report on Sind Physiological Scheme	30
45. Progress Report on the Scheme for Survey of Goghari cotton in Gujarat	30
46. Progress Report on the Scheme for Survey of cotton in Rohilkhand and Bundelkhand, United Provinces	30
47. Final Report on Hyderabad Cotton Survey Scheme	31
48. Progress Report on the Scheme for Survey of Goghari cotton in Baroda State	31
49. Progress Report on the Plant Puller Propaganda Scheme in Surat and Broach Districts	31
50. Progress Report on the Plant Puller Propaganda Scheme in Baroda State	31
51. Progress Report on the Scheme for Defibration of Cotton Seed in the Bombay Presidency	31
52. Progress Report on the Scheme for Defibrating and Delinting Plant in the Punjab	31
53. Annual Report of the Institute of Plant Industry, Indore	32
54. Progress Report on Burma Cotton Improvement Scheme	32
55. <i>Seed Distribution and Extension Schemes</i> —Final Progress Report on Hubli Scheme	32
56. <i>Seed Distribution and Extension Schemes</i> —Final Progress Report on Gadag Scheme	32
57. <i>Seed Distribution and Extension Schemes</i> —Final Progress Report on Athani Scheme	33
58. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Surat Scheme	33
59. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Khandesh (Banilla) Scheme	33
60. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Deccan Canals (Banilla) Scheme	33
61. <i>Seed Distribution and Extension Schemes</i> —Progress Report on B. D. 8 Scheme	33
62. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Sind Scheme	34
63. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Madras Tiruppur and Co. 2 Schemes	34
64. <i>Seed Distribution and Extension Schemes</i> —Progress Report on the scheme for extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar	34
65. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Hyderabad Scheme	34
66. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Baroda (Navsari Seed Storage) Scheme	35
67. <i>Seed Distribution and Extension Schemes</i> —Progress Report on the United Provinces C. 402 Scheme	35
68. <i>Research Schemes—Proposed extensions of :—</i>	
(a) Broach Cotton Breeding Scheme	35
(b) Jalgaon Cotton Breeding Scheme	36
(c) Cotton Wilt Breeding Scheme at Poona	36

	PAGE.
(d) Plant Puller Propaganda Scheme in Surat and Broach Districts	36
(e) Central Provinces and Berar Entomological Scheme	36
(f) Hyderabad Pink and Spotted Boll-worm Scheme	36
(g) Baroda Root Rot Scheme	36
69. <i>Seed Distribution and Extension Schemes—Proposed extensions of</i> ..	36
(a) Hyderabad Scheme.	
(b) Scheme for extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar.	
(c) Madras Tiruppur Scheme.	
70. <i>Proposed new Research Schemes :—</i>	
(a) Scheme for breeding wilt resistant cottons for Surat area ..	37
(b) Scheme for the improvement of Dholleras cottons	38
(c) Scheme for the improvement of Kumpta cotton in Hyderabad State	38
71. <i>Proposed new Seed Distribution and Extension Schemes :—</i>	
(a) Scheme for the distribution of pure Verum cotton in the Mehker Taluq, Central Provinces	38
72. Policy to be adopted by the Committee regarding apportionment of the cost of schemes during extension periods	39
73. Report of the Agricultural Research Sub-Committee	40
74. <i>Report of the Standing Finance Sub-Committee</i>	41
(a) Balance Sheet as at March 31st, 1936.	
(b) Final Accounts, 1935-36.	
(c) Revised Estimates, 1936-37.	
(d) Budget for 1937-38 (Government servants).	
75. Award of Research Studentships at the Institute of Plant Industry, Indore	42
76. Appointment of Government servants as Superintendent in the Secretary's office	42
77. Plant Puller Propaganda Scheme in Baroda State—Application for additional grant. (Reference from the Standing Finance Sub-Committee)	43
78. Inclusion of Northern and Western Cottons in the programme of work of Dry Farming Scheme at Bijapur	43
79. Progress Report of the Bombay Cotton Crop Forecast Improvement Scheme for the year ending 15th June 1936 and programme of work for 1936-37	43
80. United Provinces Cotton Pest Control Bill—Reference from the United Provinces Government	43
81. Scheme for the control of Pink Boll-worm in the United Provinces ..	43
82. Estimation of the effects on the cotton crop of the use of the Plant Puller	45
83. Cotton Cess in Burma after separation	46
84. Proposed application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to parts of the Bombay Presidency ..	46
Resolutions passed by the Committee	49

APPENDICES.

I. Amendments to the Madras Commercial Crops Market Act ..	52
II. Cotton Ginning and Pressing Factories Act—Progress Made in Indian States	52
III. Amendment of Form 'A' prescribed under Rule 16 of the Indian Cotton Cess Rules, 1923	53
IV. Report on the fumigation of American Cotton	53
V. Half-yearly Report of the Publicity and Propaganda Officer ..	54
VI. Report of the Cotton Forecast Improvement Sub-Committee ..	60
VII. Report of the Special Sub-Committee on Wider Markets for Indian Cotton	60
VIII. Progress Report of the Director, Technological Laboratory ..	61
IX. Report of the Technological Research Sub-Committee	71
X. Agricultural Research—General Progress Report	74
XI. Report of the Agricultural Research Sub-Committee	76
XII. Report of the Standing Finance Sub-Committee	91

Present.

- His Excellency the Hon'ble Sir Robert Duncan Bell, K.C.S.I., C.S.I., C.I.E., J.P., Acting Governor of Bombay,
- Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E. (*Vice-President*), in the Chair, Representative of the East India Cotton Association, Bombay,
- Dr. W. Burns, I.A.S., Agricultural Expert, Imperial Council of Agricultural Research,
- Khan Bahadur Maulvi Fateh-ud Din, I.A.S., Offg. Director of Agriculture, Representative of the Agricultural Department, Punjab,
- J. C. McDougall, Esq., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Central Provinces,
- S. D. Saklatvala, Esq., M.L.C., Representative of the Bombay Mill-owners' Association,
- M. S. Durutti, Esq., Representative of the Bombay Chamber of Commerce,
- Chunilal B. Mehta, Esq., Representative of the Indian Merchants' Chamber, Bombay,
- A. P. Darlow, Esq., Representative of the Karachi Chamber of Commerce,
- J. Vonesch, Esq., Representative of the Tuticorin Chamber of Commerce,
- D. K. Kane, Esq., Commercial Representative, Central Provinces,
- Khan Bahadur Sardar Habibullah, M.L.C., Commercial Representative, Punjab,
- Akhil Bandhu Guha, Esq., Commercial Representative, Bengal,
- Sir Chunilal V. Mehta, K.C.S.I., (on 18th only), Co-operative Banking Representative,
- M. R. Ry. Rao Bahadur B.P. Sesha Reddi Garu, M.L.C., Representative of Cotton Growers, Madras,
- Sardar Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of Cotton Growers, Bombay Presidency,
- Khan Bahadur Shah Nazar Husain, M.L.C., Representative of Cotton Growers, United Provinces,
- Sardar Sahib Gurbachan Singh, M.L.C., Representative of Cotton Growers, Punjab,
- Mian Nurullah, M.L.C., Representative of Cotton Growers, Punjab,
- Rao Bahadur M. G. Deshpande, C.B.E., Representative of Cotton Growers, Central Provinces and Berar,
- M. P. Kolhe, Esq., M.L.C., Representative of Cotton Growers, Central Provinces and Berar,
- Nizam-ud Din Hyder, Esq., Director of Agriculture, Representative of the Hyderabad State,
- R. G. Allan, Esq., C.I.E., Commissioner of Agriculture, Representative of Baroda State,
- H. H. Pandya, Esq., Director of Agriculture, Representative of the Gwalior State,

D. N. Mahta, Esq., Economic Botanist for Cotton, Central Provinces,
Rao Bahadur S. S. Salimath, Deputy Director of Agriculture, Southern
Division, Dharwar,

Dr. V. K. Badami, Ph.D., Representative of the Mysore State,
M. R. Ry. V. Ramanatha Ayyar, Avargal, Cotton Specialist, Coimbatore,

Musahib-i-Khas Bahadur S. V. Kanungo, (on 17th only), Representative
of the Holkar State,

W. J. Jenkins, Esq., I.A.S., Chief Agricultural Officer in Sind,
Seth Isserdas Varindmal, Representative of the Indian Merchants'
Association, Karachi,

P. B. Richards, Esq., I.A.S., Offg. Director of Agriculture, Represent-
ative of the Agricultural Department, United Provinces,

Syed Miran Muhammad Shah, Esq., M.L.C., Hyderabad Sind,

Khan Saheb Farrukhbeg Sadikalibeg Mirza, Nawabshah, Sind,

Lala Shri Ram, Representative of Cotton Millowners of Delhi,

Chellaram Shewaram, Esq., Representative of the Karachi Cotton
Association, Ltd.,

Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,

The Secretary (Mr. P. H. Rama Reddi, I.A.S.),

The Director, Technological Laboratory (Dr. Nazir Ahmad) and

The Publicity Officer (Mr. R. D. Mihra).

By Invitation.

C. H. Bristow, Esq., I.C.S., J.P., Private Secretary to His Excellency
the Governor of Bombay (on 18th only),

P. K. Norris, Esq., Agricultural Commissioner, U.S.A., Department
of Agriculture (on 18th only),

W. H. Shoobert, Esq., I.C.S., Director of Land Records, Central
Provinces,

N. Brodie, Esq., Director, Industrial Intelligence and Research Bureau,
Indian Stores Department (on 17th only),

Mazhar Husain, Esq., Director of Statistics, H. E. H. the Nizam's
Government, Hyderabad Deccan,

Major R. P. Jones, British Cotton Growing Association, Ltd., Khanewal,

T. R. Low, Esq., I.A.S., Director, Institute of Plant Industry, Indore,

B. S. Patel, Esq., I.A.S., Deputy Director of Agriculture, Gujarat,
Surat (on 17th only),

R. G. Saraiya, C/o Messrs. Narandas Rajaram & Co., Bombay,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

J. B. Hutchinson, Esq., Geneticist and Botanist, Institute of Plant
Industry, Indore,

Prof. R. H. Dastur, Plant Physiologist, Agricultural College, Lyallpur,

Mohammad Afzal, Esq., Cotton Research Botanist, Lyallpur,

Dr. B. N. Uppal, Plant Pathologist to the Government of Bombay,

G. R. Ambekar, Esq., Provincial Officer in charge, Bombay Cotton Forecast Improvement Scheme, (on 17th only),

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

Sir Bryce C. Burt, Kt., C.I.E., M.B.E., I.A.S., Vice-Chairman, Imperial Council of Agricultural Research, *President, ex-officio*,

F. D. Odell, Esq., I.A.S., Deputy Director of Agriculture, Representative of the Agricultural Department, Burma,

The Director General of Commercial Intelligence and Statistics,

Y. G. Deshpande, Esq., Commercial Representative, Central Provinces,

J. Nuttall, Esq., Commercial Representative, Madras,

M. R. Ry. K. Ramaswami Gounder, Representative of Cotton Growers, Madras,

Rao Bahadur C. S. Shirahatti, Representative of Cotton Growers, Bombay Presidency,

Rai Bahadur Lala Anand Sarup, M.L.C., Representative of Cotton Growers, United Provinces.

The Vice-President's (Sir Purshotamdas-Thakurdas') Speech.

YOUR EXCELLENCY AND GENTLEMEN,

In the absence of the President, Sir Bryce Burt, who, owing to pressing duties at headquarters, is prevented from being here to-day, it is my privilege to tender to Your Excellency, on behalf of the Indian Central Cotton Committee, a cordial welcome to this meeting and to express our sincere appreciation of this proof of Your Excellency's interest in our work. I need scarcely add that the interest which the Government of Bombay, have shown in our work has been no little encouragement to us in our endeavour to tackle the many-sided problems with which the premier industry of India is faced, whether arising from the agricultural, manufacturing or commercial aspects.

I must refer to the loss which the Committee has very recently sustained by the sudden death of one of its members, Dr. F. J. F. Shaw. The loss is all the more poignant by reason of the fact that it was barely two months ago that he was honoured with a C.I.E., in recognition of his services in the field of agriculture. Dr. Shaw was a keen scientist and an energetic officer who devoted the best years of his life to the service of India. His untimely death is a loss not only to the Committee but to the whole country.

Gentlemen, I extend a hearty welcome to the new members who have joined our ranks since last we met. Sir Chunilal V. Mehta replaces Rao Bahadur M. G. Deshpande as the Co-operative Banking Representative; though he is new to our deliberations he is not unacquainted with our work, having, I understand, had a share in the very measure that brought us into being—The Indian Cotton Cess

Act. We are fortunate in not losing the services of Rao Bahadur Deshpande for he continues as a member as one of the Central Provinces cotton grower's representatives in the place of Mr. N. M. Deshmukh. Mr. D. K. Kane replaces Rao Bahadur G. R. Kothare, Sardar Gurbachan Singh replaces Sardar Sampuran Singh, Mr. Syed Mian Muhammad Shah takes the place of Khan Bahadur Fazli-i-Ali Khan and Mr. A. P. Darlow that of Mr. G. C. R. Coleridge. In Mr. M. P. Kolhe who succeeds Mr. J. B. Deshmukh and Mr. M. S. Durutti who replaces Mr. A. A. Sarantides, we welcome old friends and are glad to have them once again in our midst. We shall no doubt miss those members who have retired from the Committee on completion of their term of office and we thank them for the work they have done on this body; more particularly are we indebted to Rao Bahadur Kothare and Mr. N. M. Deshmukh who always evinced very keen interest in the affairs of the Committee. It may gratify Mr. Deshmukh to know that his resolution regarding broadcasting of cotton rates early in the morning may still be complied with by Government.

Since we met last there has been a change in the head of the Government of India. In His Excellency Lord Linlithgow we welcome a Viceroy who looks upon active assistance to the agriculturist of India as his foremost duty, which he is bent upon performing with all the zeal, keenness and thoroughness of which His Excellency is known to be capable. Broadcast appeals to the people at large and special circular letters to Provincial Governors to co-operate with His Excellency in this work were issued soon after His Excellency arrived in India. This assures us of His Excellency's continued interest in our work. It is well known that His Excellency was Chairman of the Imperial College of Science and Technology in London. His Excellency first made acquaintance with the work of the Indian Central Cotton Committee in 1926-1928 when he visited India as Chairman of the Royal Commission on Agriculture and his commendation was then a source of great encouragement to us. We feel sure that we shall have the privilege of welcoming him in person in Bombay to a meeting of our Committee at no very distant date. That the work of uplift of our agriculturist is most necessary in the programme of nation-building activity can hardly be doubted. It is not only complicated but in existing circumstances it would require unflinching patience and perseverance. These qualities are some of the fortes of His Excellency's many qualifications for the august position he occupies. India without distinction of any sort must be happy over this and I have no doubt everyone will pray for all strength to His Excellency in his efforts. The problems will, however, require to be tackled from various points and I have no doubt His Excellency the Viceroy will be ready to do the needful at every correct juncture.

As usual, the monsoon meeting of the Committee has been marked for stock-taking in the matter of the schemes financed by it. Those of you who have been members of this Committee in its earlier years and are acquainted with its early history will realise from the agenda before you how much the Committee has extended its activities in the period, and how, as though through a process of natural evolution, development has taken place. In the matter of its schemes, for instance, breeding schemes have given rise to seed distribution and extension schemes; survey schemes have resulted in the selection of

some new strains which later, after further improvement and comparative tests, will have found their outlet in seed distribution and extension schemes. A similar process operates in the case of mycological schemes when new strains found resistant to certain diseases emerge into seed distribution and extension schemes. From entomological schemes too have sprung clean-up propaganda schemes and schemes for popularising a cheap and simple implement for the uprooting of cotton stubbles. Thus steadily and surely are the activities of the Committee forging their way into the agricultural economy of the country. There is no finality in agricultural improvement in any country of the world and this is particularly true of cotton improvement in India.

Besides the usual reports on research and other schemes, several other items of importance figure on the agenda of this meeting, but I can do no more than make a brief passing reference to some of them only.

It will be a source of satisfaction for us all to know that, since we last met, one of the first pieces of legislation advocated by the Committee from its very first meeting, viz., legislation for the licensing of ginning and pressing factories, has at last found a place in the statute book of two Local Governments, Bombay, and the Central Provinces. The pride of place for this achievement goes to Bombay, and I have no doubt, gentlemen, that the greatest gratification for it would be His Excellency Sir Robert Bell's, who as member in charge of the Bill successfully piloted it through the various stages in the Bombay Council. I wonder if many of you are aware that the Bill passed its second and third readings in the Council in less than two hours and the reason for this smooth course of the Bill in the Bombay Council can well be said to be that the Government of Bombay took the very wise step of consulting commercial opinion concerned before the Bill was drafted and considered by the Select Committee. I can assure Your Excellency that this Committee would always place its best services at the disposal of any Government under similar circumstances.

It is a matter of regret, however, that although the Bombay Act has been made applicable to Sind in the first instance, delay in the framing of the rules has prevented the Government of Sind from issuing the necessary notification bringing the Act into operation in the current revenue year. We may, however, entertain the hope that there will be no cause for further delay. The Central Provinces Bill became law less than a month ago and if the benefits of this legislation are not to be lost, it is for us to urge at this meeting that the Act should be put into operation with the least possible delay. The third province to take up the lead is the Punjab and you will see from the papers before you that the Punjab Provincial Cotton Committee have suggested that in order to get over the difficulty occasioned by the peculiar nature of the problem of mixing Punjab-American cotton with *desi* a problem that has received our earnest attention at several meetings, mixing should be permitted provided bales so mixed are marked prominently with particulars of the mixture. I have little doubt that the practicability or otherwise of this suggestion will receive your serious consideration.

The Second Annual Report of the Lancashire Indian Cotton Committee shows continuation of the useful and enthusiastic work started by that Committee under the able guidance of Sir Richard Jackson. It indicates that not only have the previous year's activities of that body been intensified but that further new ones have been developed. It bears evidence of goodwill on the part of that body and I have no doubt that the use of Indian cotton, whilst encouraging more close trade relations between India and England, is proving beneficial to the consumers in Lancashire.

Negotiations are in progress at present between representatives of the Government of India and of the Government of Japan in connection with the continuation or modification of the existing trade agreements between the two countries. This Committee is represented amongst the group of non-official advisers to the Government of India by one of its agricultural representatives who have been instructed on lines similar to those approved of by you three years ago. Let us hope that the negotiations will come to a speedy conclusion to the satisfaction of both countries.

The United Provinces Cotton Pest Control Bill, which is before you may also rightly be regarded as one of the Committee's achievements as it represents the outcome of one of the research schemes financed by the Committee in the United Provinces. It is hoped that when this Bill becomes law the cultivators within the sphere of its operation will reap the higher profits which the investigation has shown to be possible as the result of the heat treatment of seed which destroys the pink boll-worm larvæ.

The Report of the Standing Finance Sub-Committee and proceedings of the Local Sub-Committee which are before you need little recommendation from me. I have only to draw your attention to para 3 of the Standing Finance Sub-Committee's Report which shows how the estimates of our resources made in 1934 are being maintained.

We now appear to emerge from the period of depression extending over a period of years when the cotton grower in the world was faced with the danger of a break in prices of cotton and consequent increased hardship to him. The large surplus which was at one time on the hand of the Government in the United States of America appears now to be capable of being comfortably handled by that Government so that no untoward effect of disposal of it may be perceived on the cotton market of the world. This is an achievement on which one may congratulate the cotton grower at large and it remains for me to hope that we have now definitely turned the corner and are in sight of more stable prices and something approaching, if not prosperity, at least reasonable return to the producer of cotton.

His Excellency The Governor's Speech.

SIR PURSHOTAMDAS AND GENTLEMEN,

I am very pleased that you have asked me to address this meeting and that I have been able to accept your invitation. Cotton is the most important crop in many mofussil districts, and occupies a very

important place in the trade and industry of Bombay, Ahmedabad and Sholapur, the three biggest towns in the Presidency. The cultivator, the broker, the millowner and the merchant are all directly interested and many others indirectly.

The Indian Central Cotton Committee serves a most useful purpose as a clearing house for information and for the co-ordination of the various and frequently conflicting demands of the many interests dealing with cotton. By its statistical work the Committee has collected information and established facts which are a firm basis for future action. By research and experiment it has not only demonstrated the full possibilities of existing varieties but has developed new varieties to meet the requirements of the market to the extent which the conditions of soil and climate make possible.

There is of course plenty of scope for action by Government both on the administrative side in assisting and advising cotton growers, and by legislation. Legislation requires, however, not only to be based on the fullest possible information but, if it is to be effective, to be backed by intelligent public opinion. It would be of little use for Government to prohibit by law the importation of poor types of cotton into certain areas or the mixing of good and bad cotton unless, as a consequence of the advantages of restrictions having been convincingly proved, there was a strong body of opinion in favour of their imposition.

Government have, in fact, not been backward in introducing legislation where opinion in its favour has been sufficiently strong. Lord Brabourne informed you last year that, by passing a resolution in favour of legislation on the lines of the Bombay Cotton Control Act, you had made it possible for Government to introduce legislation. The Bill was introduced accordingly and passed in 1935. By this Act the cultivation of Goghari cotton has been prohibited in the 'South Surat' protected zone, and mixing with the high grade 1027 A.L.F. cotton will be prevented. What is particularly important is that the high reputation of this latter cotton will be maintained. Its price will correspond with that reputation. This somewhat drastic legislation has been accepted without demur by the cotton growers and I attribute this result to the propaganda by Government and the Committee in favour of this action and to Government's policy of waiting until the Committee had given its emphatic approval to such legislation before they moved the Legislative Council to pass the Bill.

The other piece of legislation, the *Cotton Ginning and Pressing Factories (Bombay Amendment) Act*, was passed only this year and so far has only been applied to Sind. This Act is intended to prevent various malpractices such as the watering of cotton and mixing of varieties. Careful enquiries are being made to find out to what areas it would be useful to apply the Act in the Presidency and action will be taken when definite conclusions have been reached. It might seem that a logical outcome of the application of the *Bombay Cotton Control Act*, in any area, such as the "South Surat" protected zone to which I have just referred, is the application also, sooner or later, of the *Cotton Ginning and Pressing Factories (Bombay Amendment)*

Act. It is, however, on suggestions of this kind that the advice of this Committee will, in due course, guide Government to their final conclusions.

I am aware, gentlemen, that you would like further legislation to be undertaken, particularly to secure the carrying out of the scheme for the eradication of boll-worm in Gujarat. Government have already informed you that they wish to observe the results of propaganda and of the Cotton Control Act first before initiating further legislation and, in my opinion, this cautious attitude is justified. The introduction of a Bill to effect this purpose will be more opportune when public opinion has had time to assimilate the proposals.

I am glad to see that the Committee has appreciated the good work done by the Lancashire Indian Cotton Committee in encouraging the use of Indian cotton in English mills. The prosperity of growers necessarily depends very largely on the overseas market and it is no small matter that the import of Indian cotton into the United Kingdom has risen from roughly 230,000 bales in 1932-33 to about 390,000 bales in 1934-35. This is of direct benefit to the Indian cultivator and therefore to the country as a whole.

The work of the Lancashire Indian Cotton Committee is an effort on one side to adjust certain trade relations between India and the United Kingdom on a basis of mutual advantage. The restriction of international trade by tariffs and other factors has in many countries required to be adjusted by negotiated agreements. India, as a primary producer requiring an export market for its raw cotton, has to consider the reconciliation of conflicting interests in order to trade elsewhere in that commodity. The success of such adjustments of foreign trade must rest on mutual understanding. Your Committee can safeguard the interests of the cotton growers by assisting in clarifying the issues and in reaching a fair and sound settlement.

A feature of the work of the Lancashire Indian Cotton Committee which must have interested you, as it interested me, was the amount of technical research followed by advice and assistance which was required in order to stimulate the Lancashire demand for Indian cotton.

Through its propaganda agency your Committee with the immense authority of its store of knowledge and experience wields a great power for the improvement of the cultivation and trade of this Presidency. Bombay is above all the cotton province of India and any improvement in production, marketing or export will benefit a very large section of the population. The difficulty in the way of improvement is very largely that of convincing growers and traders of the resultant benefits. The cultivator is naturally conservative; it is indeed hardly reasonable to expect him to display much individual originality and initiative. Demonstration and propaganda are necessary to convince him that it pays in the long run to spend more on better seed, to root up old cotton stumps and to keep cotton free from admixture of inferior kinds and of dirt and rubbish. The Committee is admirably equipped for this purpose and has already done much by bringing home directly to the guilty party any departure from the specified standard of quality in cotton bales. The effect of delivering

supplies below sample is bad under any conditions but is necessarily far worse in foreign trade where the establishment of a good name and the winning of the confidence of the buyer is of the first importance. I hope the Committee will continue to regard failure to maintain a uniform standard of quality as equivalent to a breach of commercial good faith.

I will now leave you, gentlemen, to deal with the lengthy agenda which is before the Committee, and I leave my good wishes with you. I hope you will continue to assist Government with your advice and to educate the public to a better understanding of the problems which beset the producers of cotton.

Vote of Thanks to His Excellency the Governor.

Dewan Bahadur Sir T. Vijayaraghavacharya.—"It is my privilege, on behalf of the Indian Central Cotton Committee, to tender to Your Excellency our heartfelt thanks for your presence here to-day. I am aware that in doing so you only continue a practice which, I may say, has almost become a tradition. This close association between this Committee and the Bombay Government through its head has been a feature of this Committee's work for many years. No doubt this is an all-India Committee with representatives from all the provinces, but it has a special connection with Bombay which, I think, I can all the more easily expound because, as Your Excellency remarked, the office of the Committee is in Bombay and what perhaps all my brother members will recognise is that much of the success of this Committee's work has been due to the close and day-to-day interest which the businessmen of Bombay have, at great sacrifice of their time and money, given to the work of this Committee. I think it is no exaggeration to say that a great deal of the success of our work has been due to the co-operation we have received from the Government of Bombay and particularly from the Governors of Bombay. I myself as an ex-President, am aware of the close and intimate way in which many little problems which confronted us have been smoothed away by the kindly intervention of the Governors of this presidency. It gives me great pride to welcome you here to this Committee as the head of the Bombay Government. For fourteen years we have known each other and for two years in the beginning of our acquaintance we worked together on the same task, and I may say, I feel it a privilege to be able not only in my capacity as a member of the Committee but also as a personal friend to welcome you to this meeting and to tender you our heartfelt thanks for your presence amongst us on this occasion."

In the unavoidable absence of the President, the Vice-President conducted the deliberations of the Committee.

SUBJECT 2.—Confirmation of Minutes.

The Minutes of the previous meeting were confirmed.

The Vice-President in moving from the chair a condolence resolution on the sad and untimely death of the late Dr. F. J. F. Shaw, C.I.E., paid glowing tributes to the qualities of head and heart of the deceased. The following resolution was then passed, all standing :—

RESOLUTION.—"The Indian Central Cotton Committee desires to express its very great regret at the sudden and tragic death of Dr. F. J. F. Shaw, and wishes to convey its most sincere sympathy to Mrs. Shaw and her family in their great loss."

SUBJECT 3.—*Comments of the Government of India on the Annual Report of the Committee.*

The Secretary's note was recorded.

SUBJECT 4.—*Changes in personnel of the Committee and Sub-Committees.*

The Secretary's note was recorded.

SUBJECT 5.—*Appointment of cotton growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and Reports of members.*

The Vice-President, in moving the resolution for the re-election of the three sitting members on the Board of the East India Cotton Association for the ensuing year, testified to the keen interest that had been evinced by these members in the work of the Association during the past year.

The following resolution moved from the chair was carried unanimously :—

RESOLUTION.—"That Mian Nurullah, Mr. M. P. Kolhe and Sardar Rao Bahadur Bhimbhai R. Naik be appointed cotton growers' representatives of the Committee on the Board of Directors of the East India Cotton Association."

SUBJECT 6.—*Establishment of regulated cotton markets.*

Enquiries as to whether any steps had been taken by the Central Provinces Government to increase the number of cotton markets under the Government elicited the information that a bill had been put through in the Central Provinces Legislative Council with the idea of leaving it entirely to the Government to decide whether the Government should consult or not local bodies in the establishment of such markets and that proposals had already been received from two more places for the establishment of such markets. This Bill had been sponsored with the aim of amending the original Act in order to facilitate the establishment of such markets by enabling the Government to do so without consulting the municipalities and local bodies which through an unfounded fear of having their influence undermined if markets were established under the *Cotton Market Act* were moving very slowly. Another bill to repeal the *Berar Cotton and Grain Markets Law* and to enable the Central Provinces Act to be made applicable to Berar also had already been introduced in the Council and it was expected that this bill after being passed by the Legislative Council would soon enable the regulated markets in the Central Provinces and Berar to be governed by one and the same Act.

The Secretary's note in this connection was recorded.

SUBJECT 7.—*Amendments to the Madras Commercial Crops Markets Act.*

The Secretary's note* was recorded.

* Appendix I (page 52).

SUBJECT 8.—*Cotton Ginning and Pressing Factories Act.*

(a) *Bombay Amendment Act, 1936.*

(c) *Central Provinces Amendment Bill.*

Satisfaction was expressed at the speedy steps taken by the Bombay and Central Provinces Governments on the initiative of the Indian Central Cotton Committee and the East India Cotton Association in passing legislation to check the growing malpractices relating to cotton. Since both the Governments had now passed the amendments to the *Cotton Ginning and Pressing Factories Act*, it was requested that these acts may be applied to the required areas as early as possible and that the Indian Central Cotton Committee should be consulted before the rules under the Act were framed. The Indian Central Cotton Committee and the East India Cotton Association were considering the advisability of extending the Act to other parts of the Presidency as desired by the Bombay Government.

A question with regard to the Central Provinces Act was raised as to whether the mixing of merely the two long staple cottons, viz., *Buri* and *Verum* would also be regarded as an offence as it was clear that if these two cottons were mixed with Garrow Hill cotton it would constitute an offence. It was replied that the section dealing with this point would not come into force for sometime in the whole of the province and that its application would be restricted to specific notified areas. Moreover, as *Buri* was grown in certain localized areas it was presumed that its mixing with *Verum* was unlikely. It was, however, thought that the matter would receive due consideration at the hands of the Legislative Council whose approval would be required for the rules to be framed under the Act. With regard to watering it was felt that in the Central Provinces and Berar this should be stopped under the Act in the interest of cotton growers.

With reference to the existing differences between Section 10 of the Bombay Act, and the corresponding section of the C. P. Act, with regard to the additional words "in the opinion of the local government such modification or revision is likely to defeat or frustrate any of the purposes of this Act, the local government etc.," occurring in the Section 10 of the Bombay Act, it was pointed out by the *Vice-President* that from experience it was possible for a correction made by the Legislative Council to be found in practice unworkable and it was only in that case that the Government would make use of this proviso and not wantonly.

The following amended resolution was then passed unanimously:—

RESOLUTION.—"The Indian Central Cotton Committee places on record its satisfaction that the Governments of Bombay and the Central Provinces have passed legislation for the control of cotton ginning and pressing factories. The Committee has no doubt that this measure will go a far way in suppressing the malpractices which are detrimental to the interests of the cotton growers as they mar the fair name of Indian cotton both in India and abroad and it now desires strongly to impress upon the Governments concerned the desirability of bringing the Act into operation at the earliest

possible date in those tracts where its application is indicated. The Committee further hopes that it will be given an opportunity of commenting on the rules to be framed by local Governments before they receive legislative sanction."

SUBJECT 8.—*Cotton Ginning and Pressing Factories Act.*

(b) *Bombay Amendment Act 1936—Application of—to Sind.*

It was resolved that "The Indian Central Cotton Committee urges on the Government of Sind the necessity of taking very early steps to make the *Cotton Ginning and Pressing Factories (Bombay Amendment) Act* effective in that province by framing rules as early as possible before malpractices become established in the newly developed cotton tracts of that province."

As Sind was a new province where malpractices in cotton had not yet become hardened and as there was little likelihood of the Act becoming operative during the year, it was found necessary that the need of enforcing this piece of legislation as early as possible should be fully stressed before the Government of Sind. As the new Legislative Council was likely to take time in starting to function and give effect to the Act, the Government of Sind was requested to do away with the technical difficulties and enforce the legislation as early as possible in order to avoid the tragedy of being too late.

The resolution was opposed mainly on three grounds, viz., that Section 10 of the Bombay Act provided that rules could not come into operation until the Legislatures had passed them or had been given an opportunity to make any modifications, secondly, that as the Government had undertaken to meet the supply of pure seeds till it had reached the stage of perfection, the grower could not be compelled to come under the operation of the Act, and finally that as the cotton crop of Sind was similar to that of the Punjab where no such legislation had been enacted, it was but natural that the Sind crop would be passed over in favour of cheaper Punjab cotton although the former was purer.

It was however pointed out that some of the cotton growers had been forced to join hands with the ginowners in opposing the resolution due to the influence of the latter who were largely financing the growers in Sind and who had refused to make advances to them against American cotton. An appeal was made to the ginowners of Sind to take a long view of the matter and give all the support they possibly could in the interests of the growers. With reference to the competition with the Punjab cotton it was pointed out that the Sind cotton had still to build up its reputation. There was hardly any sense in saying that because the wrong doers in the Punjab were doing wrong unchecked, Sind too should be permitted equal terms to compete. As a matter of fact, the only lesson to be drawn from the state of affairs existing in the Punjab was that the Act should be enforced in Sind speedily. Moreover, if steps were not taken to make the Act operative at once, there was possibility of its being thrown

overboard altogether by the Sind Legislative Council as was evident from the attitude adopted by the Sind members of the Bombay Council.

The *Vice-President* pointed out that as the Act had been fully discussed before the Bombay Legislative Council and as it had been passed by a large majority, there was hardly any sense in desiring its consideration *de novo*. He further said that at this juncture to come out and say that the middlemen would not co-operate with the Government, was a threat which he would like to see not put in practice. Considering that the longer the evil practices were allowed to continue, the more they tended to harden and the more difficult it would be to eradicate them. He advised the Committee to set aside sentiments and to conform what it had so steadfastly said by passing the resolution unanimously.

The resolution was carried by majority only one voting against and two remaining neutral.

SUBJECT 8.—*Cotton Ginning and Pressing Factories Act.*

(d) *Proposed introduction of the system of licensing Gins and Presses in the Punjab.*

The question of introducing the system of licensing the gins and presses in the Punjab had been discussed in the Committee on many occasions and some of the proposals to check the evil of mixing were suggested by the former Director of Agriculture, Punjab. Two of these proposals outlining the establishment of a testing house and demarkation of certain tracts for growing long staple cotton and others for short staple varieties had been considered impracticable by the Indian Central Cotton Committee. The third proposal dealing with the licensing of gins and presses had been favoured by the Indian Central Cotton Committee, the only opposition to it came from the Ginning interests. The fourth proposal aiming at the formation of co-operative sale societies for the sale of pure ginned American cotton also fell through as it was felt that there was no enthusiasm among the growers to form such societies and the argument against this was that it was not profitable at the present time to put on the market pure Punjab American cotton because better returns could be obtained by marketing mixtures. The Provincial Cotton Committee before whom the whole question had been fully discussed in December 1935, had recommended to the Government the introduction of a bill which would (i) require the licensing of all cotton ginning and pressing factories, (ii) prohibit certain malpractices such as watering and adulterating cotton with cotton seed and other foreign substances, (iii) permit the mixing of cotton provided that all bales of mixed cotton were marked prominently with particulars of the mixture and that the ginning and pressing factory owner or lessee certified the exact mixture in each consignment, (iv) enable Government to prohibit entirely by notification in the *Punjab Gazette* the mixing of cotton in any area in which Government might consider it necessary or desirable to take such a step.

The main principle of the Bill which was at present under consideration of the Punjab Government was that cotton could be mixed provided the amount of the mixture was shown clearly on the bale.

pay *in cash* the premium for the option so as to discourage over trading. At present this is partly provided for by the draft by-law 191 which however leaves to members a discretion in the matter.

Speeches made in the course of the debate generally commended the President's proposal as an excellent solution of a difficult problem ; but very strong views were also expressed in favour of making all cotton options illegal and suppressing them under the criminal law, should that be possible.

An amendment urging that these transactions be declared illegal under the Criminal Law was moved and seconded but was lost by nine votes to seven, many members abstaining.

Another amendment asking that the minimum period of options be changed from one month to three months was after discussion withdrawn.

The points made in the course of the speeches may be summarised as follows :—

1. Every conceivable method of preventing option business had been discussed at Delhi and the President's note was the result of the conclusions drawn by him.

2. The proposal to legalise and regulate option business was merely a trial and nobody should be dogmatic about its success.

3. Several mills and spinners of repute were accustomed to protect themselves by option dealings under certain circumstances.

4. Option dealing was an expert art and those who could tackle options so well, so skilfully, and with such expert knowledge as in Bombay were neither reckless nor ignorant. They knew their business thoroughly and their like was rare outside the Bombay market.

5. One reason why option business should not be prohibited was that at present the Bombay cotton market with its option business was perhaps the largest market in the world, but without options it would sink to a fourth rate market.

6. It was doubtful if Government would ever be able to suppress all *teji-mandi* business outside the East India Cotton Association, as there were also associations for cotton trading outside Bombay in the Bombay Presidency. *Teji-mandi* business was already going on on a large scale at Ahmedabad and it had also been started at Surat where a cotton exchange had already been opened. It was also in vogue at Indore, Bikaner, Jaipur and other small places and it would continue in those places irrespective of the Bombay Cotton Contracts (Amendment) Bill under consideration by the Bombay Legislative Council.

7. Shorter options than one month were a greater danger to the market as undue pressure could be brought to bear by purely speculative elements. Historically too, Bombay used to have only yearly options. At present the unregulated options which caused most trouble were weekly options and for that reason one month had been suggested as the absolute minimum with the proviso, that the period might be extended if a monthly option was not required for genuine trading.

8. In addition to the minimum period of contract a maximum period should also be fixed as the longer the period the more serious the situation would be. A one-year period for *teji-mandi* business would mean that six or seven months business would amount to more than a million bales and if at the end of this period the market fluctuated the danger would increase on account of accumulation. If, on the other hand, the option period was shorter the volume of business would not accumulate as on declaration days old contracts expired.

9. In support of the amendment for suppressing this form of business it was urged that option dealings did not form part of the ordinary genuine trade dealings in cotton but were used by speculators who delighted in huge speculations in all kinds of options.

10. In a falling market options accelerated the decline more than they accelerated the advance in an advancing market. This was a feature definitely against the interests of growers.

SUBJECT 11.—*Half-yearly report* of the Publicity and Propaganda Officer.*

The meeting approved the half-yearly report of the Publicity and Propaganda Officer.

Appreciative references were made to the Publicity and Propaganda Officer's services particularly in the recent instances of the Cotton Control Bill and the Cotton Ginning and Pressing Factories Amendment Bill when these measures were before the Bombay Legislative Council.

The Publicity Officer's services were requisitioned for Hyderabad State during the forthcoming Industrial Exhibition in connection with the Jubilee of His Exalted Highness, and also for following up the work of propaganda against Goghari in the next three months in Bombay Presidency.

The Vice-President as Chairman of the Standing Finance Sub-Committee gave the assurance that the services of the Publicity Officer would be freely available subject to the exigencies and business of the Committee at the time the requests were received. He remarked that the members would be glad to know that the Government of India had finally approved of the Committee's recommendation regarding the Publicity Officer's scale of pay.

SUBJECT 12.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

Of the varied subjects considered at the meeting of the Sind Cotton Committee, the members gave their attention to the steps necessary to prevent adulteration of the new strains now being grown in Sind and the best types of cotton suited to Sind.

As regards the Bill for the licensing of gins and presses which seeks to amend the original Cotton Ginning and Pressing Factories Act, it was urged that if several varieties were grown mixing was bound to occur and it was therefore necessary to defer the application of the Act to the reserved area until the supply of seed was sufficient.

* Appendix III (page 52).

The suggestion that not only should the tract be isolated for growing American cotton but also only one variety of American should be grown in it was criticised on the ground that it involved even more risks than if the area were confined to American cottons only. It would be difficult to distinguish at present between the four different kinds of American cotton and to say which of them would be most suitable for the reserved area.

A note of warning was sounded against sticking rigidly to one type of American cotton in the reserved area. It would be a great mistake to do so until the varieties being produced there at present had been tried on a much larger scale and the farmers were confident of their yield and their resistance to disease.

Mr. Jenkins expressed his agreement with the view that it was rather premature to grow only one variety of cotton in the compact area in Sind, but Sind Agricultural Department was justified in taking a cotton which they had tested for a number of years in preference to any new types such as the K. T. types which had never been fully tested in the Barrage areas.

The growing of only one variety of cotton presented very great practical difficulties owing to the March closure of the canals. *Sind Sudhar*, to which the Sind Agricultural Department was bound, did not grow well after the 15th of May and it was hoped that a seed selection from 4F. cotton would meet this difficulty as it was a late sowing cotton and was equal to 289F. in staple. He considered that the continued importation of cotton seed with the names N.T. and K.T. from the Punjab would cause confusion and there should be some method of controlling this.

SUBJECT 13.—*Summary of Proceedings* of the Local Sub-Committee.*

The Secretary's note and the summary were recorded.

SUBJECT 14.—*Technological Research—Progress Report† of the Director, Technological Laboratory.*

SUBJECT 15.—*Technological Research—Report‡ of the Technological Research Sub-Committee.*

(The above two subjects were discussed together.)

The meeting unanimously approved the progress report of the Director, Technological Laboratory.

The President and Vice-President expressed appreciation of the work done by the Laboratory and the efficient manner in which Dr. Nazir Ahmad had conducted it.

Reference was made to certain specific recommendations made by the Technological Research Sub-Committee on the report of the Director of the Laboratory. One was that the tests on Boss III and Sea Island cotton from Sind should be repeated on samples drawn from ordinary commercial crops. Comparative tests should be carried out by mills and the Laboratory on the same lots of cotton. The Sub-

* Appendix IV (page 57.)

† Appendix V (page 58.)

‡ Appendix VI (page 66.)

Committee drew attention to the necessity of better picking and ginning of such long staple cottons as Boss III and Sea Island because it appeared that these cottons had been damaged by bad handling and these cottons required special care in picking to avoid leaf.

A member suggested that some work should be done on saw-ginned cotton as the spread of American cotton in the Punjab and Sind would lead to a rapid increase of saw-ginning in the next ten years or so. It would be of great help if some tests were carried out for finding out the comparative effect of saw-gins and roller-gins on these cottons.

Dr. Nazir Ahmad expressed his willingness to make the tests suggested.

Discussion centred on two main points arising from the report; first, that the results of the tests made in the Technological Laboratory on Boss III and Sea Island cottons did not correspond with the results obtained by the mills; second, what was the most advantageous process for manufacturing artificial silk and how far the cellulose from the Indian short staple cotton could be utilised.

With regard to Boss III and Sea Island cottons it was pointed out that one firm had bought them at Rs. 450 per *khandy* and sold them at a very heavy loss as they did not prove a satisfactory substitute for similar Egyptian cottons. Test made on these cottons had revealed that the ginning was unsatisfactory and the staple most irregular.

A number of explanations were offered by speakers for the difference between the results of the laboratory tests and those obtained in mills on these two varieties of cotton.

Laboratory tests were carried out on agricultural samples which were handled in a certain standard manner but nothing was known of the real origin of the sample of Giza cotton. In view of this doubt it was considered necessary that the Director should arrange for tests at the Laboratory and in certain mills on samples drawn from the same bales to find the cause of the difference in the results obtained and of the apparent irregularity of the staple.

It was thought that in the case of Sea Island cotton better picking might considerably improve it. Immature bolls had been picked probably due to the fact that the agriculturists were used to short staple cotton and they applied the same method of picking to long and short staple cottons. It would be well for the Committee to consider the whole question of picking once again and to ask Directors of Agriculture in each province to say whether there was any room for improvement in picking particularly in those districts where longer staple cotton was now grown. Directors of Agriculture might also be able to say whether the same methods of picking were suitable to short as well as to long staple cottons and if not what their suggestions were. So long as picking methods were not improved much of the Committee's propaganda work would be lost.

Besides better picking, the method of ginning should also be investigated, inasmuch as the defects mentioned might possibly only

have been due to incorrect ginning. All gins in India were set for Indian cottons and information was lacking as to what was the best setting and the best method of ginning long staple cottons.

The Director, Technological Laboratory, said that the Laboratory had a small gin but he did not know whether experiments on such small gins would be accepted by the trade.

The President said that the Agricultural Department in Sind had a small ginning factory of its own and that it would be in a position to carry out the necessary experiments. The Director, Technological Laboratory, would give the help required.

As regards artificial silk manufacture, the Director of the Industrial Intelligence and Research Bureau was asked whether it would pay better to import wood pulp from Canada or to manufacture artificial silk from cellulose obtained from Indian short staple cotton. Assuming the price of short staple cotton at about Rs. 100 per *khandy* and that it might be possible to get about 80 per cent. cellulose from it the cost would work out at about 2 to 2½ annas per pound. But if investigations showed that wood pulp could be imported for half that price, there would be no need to continue the experiments with Indian short staple cotton. If, however, it was found that compared with wood pulp cellulose could be produced from short staple cotton cheaper, the investigations might be pursued.

At present India's short staple cotton was exported chiefly to Japan but the time would come when Japan would not need any Indian cotton at all. The question, therefore, to be considered by the Committee was in the event of Japan refusing to take Indian short staple cotton what other use could be found for such cotton.

The Director of the Industrial Intelligence and Research Bureau undertook to do all he could to obtain the information required by the Committee but the subject was a new one to him and he would like to be furnished with more details to enable him to decide how best he should proceed in the matter.

The Director, Technological Laboratory, pointed out that the investigation of the cellulose content of the various Indian short staple cottons was not yet complete. *The Director of the Industrial Intelligence and Research Bureau* proposed working on the industrial aspect and said he would be glad to co-operate with him and help to make the figures as accurate as possible.

The Committee then adopted the report of the Technological Research Sub-Committee.

SUBJECT 16.—*Report of the Research Students' Selection Sub-Committee.*

The meeting confirmed the report of the Research Students' Selection Sub-Committee.

The President in proposing the adoption of the report remarked that the standard of the candidates on this occasion was very satisfactory, being the best for a long time.

SUBJECT 17.—*Report* of the Special Sub-Committee to consider the question of a wider market for Indian cotton.*

SUBJECT 43.—*Fall in the exports of Indian cotton to China.*

(The above two subjects were discussed together.)

The Special Sub-Committee discussed the position of Indian cotton in the various markets of the world and in particular the falling off of the exports of Indian cotton to China. For various reasons Indian cotton had been losing ground in Continental markets as well as in China and it was not considered that this was entirely due to the large supply of American cotton. The increase in tariffs and other obstacles to International trade, clearing-house agreements, barter agreements and the like all seemed to act unfavourably on Indian cotton exports. The Sub-Committee felt that this matter required special attention as there was always a risk that a change of this character might become permanent. Several members of the Committee emphasized the importance of increasing the outlet for short staple cotton especially in the interests of cultivators in the Central Provinces and Berar. A question was also asked whether work on lines similar to that done by the Lancashire Indian Cotton Committee could not be started in such countries as Sweden where prospects seemed favourable. It was decided to bring the matter before the Government of India and to ask that it might receive special attention. *The President* undertook to do this.

SUBJECT 18.—*Mixing of old cotton and mill droppings, etc., in new crop cotton at Dhulia, Bombay Presidency.*

It was explained that a complaint regarding this serious malpractice had been made in a letter addressed officially to the Chairman of the Cotton Market Committee by responsible persons including local merchants and exporters. There was no doubt that the mischief was actually going on on a fairly big scale. It was of long standing and had been referred to by the Indian Cotton Committee of 1917. It was true that the East India Cotton Association penalised these malpractices.

In the ensuing debate on the method of dealing with the evil, it was pointed out that the Cotton Transport Act had been very useful in preventing articles like fly droppings, wastes, etc., going from one area to another but in this particular case there was a local mill and it was believed that mill-fly, droppings and wastes had been used for mixing. It was a fit case to be sent to the Bombay Government requesting them to apply the Cotton Ginning and Pressing Factories (Amendment) Act, when passed, to that area also.

The Governor in Council had only to extend the operation of the Act to other parts of the Presidency but before doing so an amendment in the definition of "mixture" might be necessary to make it clear that mixing of old cotton was also prohibited.

The meeting then carried unanimously a resolution that the complaint from Dhulia be reported to the Government of Bombay for effective prevention of this sort of malpractice reported by means of the Bombay Cotton Ginning and Pressing Factories (Amendment) Act.

* Appendix VII (page 67.)

A separate summary of Subject 17 appears on page 32.

SUBJECT 19.—*Report* of the Agricultural Research Sub-Committee.*

It was explained that in pursuance of the decision of the Committee that a comparison of Iran herbaceous cottons with those of the Dholeras tract with a view to find out a medium or long staple cotton suitable for this tract should be undertaken, a member of the staff of the Institute of Plant Industry, Indore, was sent to Kathiawar in November to examine the condition of Mathio cotton and it had further been proposed that he should go to Iran in September. The visit to Iran would cost the Committee Rs. 4,000. The report on the observations made in Kathiawar showed that it was necessary to have for Kathiawar a type of cotton with a short-growing period which would ripen earlier than the present type. It would appear that such a selection of finer neglectum similar in species and having the general habit of Mathio cotton could be made in the local material. Early herbaceous cottons might be obtained by crossing Iran cottons with the material available in Kathiawar.

The meeting approved the proposed visit to Iran.

The full report of the Agricultural Research Sub-Committee was then unanimously adopted.

SUBJECT 20.—*Punjab Pink and Spotted Boll-worm Scheme—Reply of the Director of Agriculture, Punjab, on the observations made by the Committee at its last meeting.*

At its last meeting the Committee had recommended that the Director of Agriculture, Punjab, should adopt certain control measures on the lines of what had been successful in Surat. The Director of Agriculture gave two reasons why the measures recommended were not undertaken, the first being that the host plants which harboured the insects had not been sufficiently investigated, and the second that the plant puller invented for Surat had not been satisfactory for Punjab conditions, as it was found to be not strong enough. These reasons seemed to the Agricultural Research Sub-Committee sufficient for postponing action.

Among other reasons for not taking action was the fact that the area of 150 square miles specified by the Committee at its last meeting was not considered sufficient for a clean-up campaign to give any practical results. No such area protected on any side was available and consequently the conclusion was arrived at that the clean-up measures would have to be carried out in a much bigger centre. This required a great deal of advance propaganda but as the cotton season had already far advanced that year, there was no time to do the propaganda. In view of these considerations, next year was the earliest by which action could be taken.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 21.—*Bikaner Gang Canal Scheme—Extension of.*

It was made clear that during the period of its extension the same problems would not be dealt with as in the original scheme. It was, therefore, suggested, that the name of the scheme should be changed to "The Bikaner Gang Canal Bengals Cotton Improvement Scheme". The Committee had sunk some capital on buildings in this scheme at

Ganganagar and with the goodwill of the Bikaner Durbar it would be possible to do some work of much value at comparatively small expense to the Committee. On the other hand there were still some problems which needed investigation such as the study of material of *desi* cottons from which strains could be evolved which would give finer *desi* cotton in the Bengals and Punjab *desi* tracts. It was proposed in this scheme to gather together as much material of finer *desi* types as could possibly be collected for utilisation by plant breeders in the Punjab, the United Provinces, etc., with the object of substituting a finer type of Bengals cotton in the present Bengals tracts.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 22.—*Punjab Cotton failure Research Scheme—Revised proposals for.*

Work under the scheme started in March 1935 and their Physiologist, Prof. Dastur, found out in a few months that the internal structure of the leaves, stems and roots of the cotton plant showed an abnormality which indicated a serious derangement of the nutrition in the plant. From the Physiologist's observations it would appear that this was to be attributed to the presence of a micro-organism in the plant. If that were proved to be the case and a remedy against its development found, a discovery would have been made which might altogether revolutionise cotton growing. It was observed that this important discovery required every encouragement.

Further, the unusual organisms observed by Prof. Dastur had been found to exist not only in Punjab-American cotton on which work was originally started but also in *desi* and in practically every other cotton from all over India which had been examined up to then with one or two exceptions.

The Agricultural Research Sub-Committee felt that for the moment, apart from continuing the observations on Punjab-American cottons, the investigation should be concentrated on the problem as to whether there really existed a connection between the organisms which had been found in the plant and the disintegration of important parts of the plant's mechanism.

The President remarked that the first year of Prof. Dastur's work had thrown new light on this important problem and the Sub-Committee's recommendations had also indicated what the approximate cost of further experiments would be. All that was now wanted was the approval of the Committee to the report of the Agricultural Research Sub-Committee and to the recommendation that the Standing Finance Sub-Committee should sanction the allocation of funds when detailed proposals were received from the Director of Agriculture.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 23.—*Punjab Cotton White Fly Research Scheme—Proposed extension of.*

The meeting adopted the report of the Agricultural Research Sub-Committee sanctioning the extension of the scheme for six months up to 30th September 1936, the cost to be met from savings under the scheme.

SUBJECT 24.—*Report* of the Cotton Forecast Improvement Sub-Committee.*

SUBJECT 25.—*Post-mortem examination of cotton forecasts of 1934-35 season.*

(The above two subjects were considered together.)

Comments were made in the course of discussion on some states in Rajputana not devoting sufficient attention to preparation of cotton forecasts, the difficulty in getting information from these states, and on the discrepancy between the forecast and the actual yield, particularly in Hyderabad State and Gujerat.

In answer to an enquiry it was explained that standard yield figures were usually based on crop-cutting experiments. These experiments were made about twenty years ago in India and it was suggested that they should now be made again on a large scale.

With regard to Hyderabad State it was pointed out that a good deal of cotton from it was pressed in the two adjoining provinces, viz., Bombay Presidency proper and Madras Presidency, and that when these three units were taken together the discrepancy was negligible. As for Gujerat, the estimated crop of Gujerat and Kathiawar in combination with the interlacing Gujerat States allowing for certain discrepancies would be within three per cent. of the number of bales pressed.

As regards Sind, before the Barrage commenced, the standard normal yield per acre in the different districts in Sind had been fixed at a fairly low figure, but when the Barrage irrigation commenced, the figures were raised. From the discrepancies still occurring in the Sind Forecast it was thought that the standard normal yield had not been increased sufficiently and Sind ought to be credited with higher yields of kapas per acre than the figures indicated.

The meeting then adopted the report of the Cotton Forecast Improvement Sub-Committee.

SUBJECT 26.—*Reports of enquiries into the village consumption of cotton.*

The President said that the Sub-Committee hoped that at the next meeting a complete estimate of the village consumption of cotton in India would be available. Very interesting figures had come in but they were still incomplete.

The report of the Cotton Forecast Improvement Sub-Committee was adopted.

SUBJECT 27.—*Cotton Forecast Improvement Scheme in the Bombay Presidency—Proposed permanent retention of the staff or extension of scheme for three years.*

It was recommended that in view of the very good work done in this scheme it should be extended as recommended by the Sub-Committee.

The Sub-Committee's recommendations were approved.

* Appendix IX (page 90.)

A separate Summary of Subject 24 appears on page 34.

SUBJECT 28.—*Report* of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet.*
- (b) *Financial Statement.*
- (c) *Revised Estimates, 1935-36.*
- (d) *Budget, 1936-37.*
- (e) *Auditors' fees.*

The meeting unanimously adopted the following resolution :—

RESOLUTION—“That the report of the Standing Finance Sub-Committee be adopted.”

“That the revised estimates for 1935-36 be approved.”

“That the budget for 1936—37 as amended at this meeting of the Indian Central Cotton Committee be sanctioned.”

“That Messrs. S. B. Billimoria and Company be reappointed auditors for the year 1936—37 on a remuneration of Rs. 750.”

Several questions were put regarding the general finances of the Committee which were answered by the Vice-President. In regard to the expenditure on the Technological Laboratory, it was explained that the Technological Sub-Committee had appointed a special Sub-Committee to go into the question of the possibility of reducing the recurring expenditure at the laboratory without affecting its efficiency and usefulness. As regards the general financial position of the Committee, it was pointed out that this had been very fully discussed 18 months ago and that the Committee had come to a definite conclusion regarding the minimum balance which should be maintained—a proposal which had been approved by the Government of India. The Committee was certainly drawing on its accumulated balances to finance the activities which it considered to be of importance and they were satisfied that the results to be obtained during the next two or three years would show the wisdom of that course. It was also pointed out that the expenditure budgetted was Rs. 10.4 lakhs as against estimated receipts of Rs. 7.4 lakhs, so that the Committee would be drawing on its balances to the extent of 3 lakhs only which was considerably less than was anticipated a year ago. At the end of the coming financial year, the Committee's reserve would still stand at nearly 21 lakhs, so that there was no cause for anxiety at the moment. Nevertheless, in two or three years time the Committee would have to face the question whether they should reduce their activities especially in the direction of extension schemes or go up for an increase in the amount of the cess.

SUBJECT 29.—*Lancashire Indian Cotton Committee—Work of—Note† by Mr. H. C. Short, Cotton Commissioner.*

The meeting unanimously resolved :

* Appendix X (page 91).

† Appendix XI (page 94.)

RESOLUTION—"This Committee desires to record its appreciation of the excellent work of the Lancashire Indian Cotton Committee. The large increase in the takings of Indian cotton in the last three years is a striking testimony to the efficiency of their organisation and propaganda."

Speakers on the resolution bore personal testimony to the keenness and efficiency shown by the Lancashire India Cotton Committee.

The export figures showed clearly how much the takings of Indian cotton had gone up during the last three years and in the year just passed they had amounted to 400,000 bales.

The work had been done in an admirable manner and this was due to the fact that from the very start Sir Richard Jackson and his collaborators set to work with determination.

The view was expressed that the Indian cotton exporter however still felt that there was room for great improvement regarding the handling of Indian cotton in Liverpool. It was realised that this matter was not directly under the organisation of the Lancashire Indian Cotton Committee but it was important as it greatly affected dealings between India and Great Britain in raw cotton. For instance, about two years ago there were serious complaints to the effect that Indian cotton was being treated more harshly in Liverpool arbitrations than it deserved and now the Liverpool Cotton Association had revised their Futures Contract with the result that while cotton coming from other parts of the world and especially the British Empire had been included in it, Indian cotton alone was left out. The reason given was not that India did not produce cotton which possessed the requisite strength, length and cleanliness required by the Futures Contract, but that, Indian cotton could be tendered under the "East Indian Contract." Every exporter of Indian cotton to Liverpool however knew that that contract was only on the statute book and nothing more. There had been practically no dealings under that contract and the quotation for it was merely nominal and was only used for purposes of "invoicing back." If India and Great Britain were to get closer in regard to cotton dealings and if cotton exports to the United Kingdom were to be on a very large scale, these grievances of the cotton trade should be set right and Indian requirements met fully at Liverpool.

In reply to this criticism regarding the Empire Futures Contract it was explained on behalf of the Lancashire Indian Cotton Committee that on the last occasion when there was a meeting at Liverpool the Indian representatives were not quite decided as to what they wanted to put forward. But if it was desired to hold a meeting at Liverpool and if the Indian representatives put their case forward there would not be the least difficulty.

Some amendments were suggested in the Chart prepared by the Lancashire Indian Cotton Committee, to show the spinning quality of certain Indian cottons.

It was pointed out in reply to these remarks that the statements in the Chart were based on tests made at the Shirley Institute and the tests were carried out with the object of obtaining optimum results and checked by one of the largest spinners.

It was mentioned that spinners in Lancashire did not appear to know all the various types of cotton which were grown in India and the purposes for which they were suited. The Cotton Commissioner of the Lancashire Indian Cotton Committee had discussions with them regarding these cottons and in many instances showed them actual cottons. This was one reason why the chart was prepared by the Shirley Institute and distributed to spinners. The Cotton Commissioner found that spinners were now taking much more interest in Indian short stapled cotton than formerly and imports of these cottons were steadily increasing. He visited a group of three mills where a new blow room had been installed purely for treating Indian cottons. Sind and Bengals are to be used by this group.

The President suggested that the Local Sub-Committee should in consultation with the East India Cotton Association consider the character of the representation which should be put forward to the Liverpool Cotton Association. Apparently the new Empire contract was not a live one and was also not popular; it was of very limited value for cottons other than American, because it dealt with only saw-ginned cotton.

SUBJECT 30.—*Railway freight rates on cotton—Reference from the last meeting of the Committee.*

The President stated that he had not been able to get information regarding the cost of cotton production. The Secretary's office should, therefore, go ahead with the examination of this question in relation to the work which the Railway Conference Association was doing. The point which had been emphasised at the previous meeting was the incidence of railway freight on cotton with reference to its value as compared with different commodities. The conference called by the Railway Conference Association in July 1935 in Delhi at which he was present had decided on a general study of re-classification of goods as regards freight, and he thought that the Secretary's office should get on with this question now.

SUBJECT 31.—*Formation of a compact block of long staple cotton in Sind—Letter from the Bombay Government.*

The intention of the Agricultural Department with regard to the variety of cotton to be encouraged in the compact area was clarified in the course of debate. It was explained that the statement in the Bombay Government's letter to the Committee that it was not the intention of the Department to distribute seed of the variety of cotton known as 4F and that its cultivation was discouraged was liable to be misunderstood. The Department had an improved variety 4F-98 which was being multiplied as rapidly as possible for distribution on the Right Bank areas and not in the compact area. Difficulties were being experienced in view of the fact that neither the variety of 289F known as *Sind Sudhar* cotton—nor the "NT" varieties grow well when sown after the middle of May. As a result cultivators in many places had been sowing *desi* in June. The 4F-98 type of cotton stood late sowing well and although its staple was not as good as *Sind Sudhar* it had a good demand. Until therefore a cotton equal to *Sind Sudhar* in staple and quality was available for late sowing a certain amount of 4F-98 seed might have to be distributed in the compact

area. There were believed to be one or two varieties equal to *Sind Sudhar* which could be sown in late May. The difficulty was aggravated by the fact that the Sind Irrigation Department closed the canals for two weeks in March, i.e., at the very time when staple cottons could very profitably and most successfully be sown. The Agricultural Department had supported the growers' request for the abolition of this closure, and the Chief Engineer in Sind hoped ultimately to meet the recommendations of the Agricultural Department in this respect. If this were done it would give an extra two weeks sowing time for long stapled cottons which would go a long way to the solution of the difficulty. The seed distribution schemes were working very well and this year seed of *Sind Sudhar* sufficient for half the compact area, namely $1\frac{1}{2}$ lakh acres, would be available. Improved methods of distribution in co-operation with some of the big zamindars were being adopted.

With regard to the difficulty of getting a cotton approximating to *Sind Sudhar* in staple for late sowing it was pointed out that one of the new cottons (NT 43) evolved by the Cotton Research Botanist, Punjab, now permanently named 43F had given most remarkable results in Multan area which bordered on Sind. It was suggested that experiments be carried out in Sind with this cotton.

The Secretary's Note was recorded.

SUBJECT 32.—*Khandesh (Banilla) Seed Distribution Scheme—Proposed extension of.*

The meeting agreed to the recommendation of the Agricultural Research Sub-Committee that the Scheme be extended for one year.

The question of apportionment of the cost of such schemes between the local governments concerned and the Committee during periods of extension granted to them led to a detailed discussion and finally at the President's suggestion it was postponed to the next meeting of the Committee.

The Director of Agriculture, Bombay, pressed for the fixing of a definite percentage of the costs of extension of seed distribution schemes which local governments were called upon to bear. He pointed out that the spending the funds of the Committee to a certain extent for seed distribution schemes was just as reasonable as using them for study of costs of cultivation. Unless the Committee helped in the distribution of seed the cultivator would not get the full benefit of successful research work.

On behalf of the Committee it was emphasised that seed distribution was more a function of the local government than of the Committee. Local Governments should finance this work, just as the Punjab Government had provided 7 lakhs rupees in the current year for seed dealings. Large quantities of improved seed were purchased by the Director of Agriculture and subsequently sold to cultivators through agents, the Punjab Government bearing the loss, if any. It was not necessary for the Committee at any rate to finance such seed distribution schemes entirely. The Local Government should accept definite responsibility for a large part of the cost.

The President, proposing postponement of the consideration of the question, mentioned that the Committee's income was only 7 lakhs rupees a year and at present the Committee was drawing upon its

reserves in order to give immediate benefit to cotton growers. It was therefore necessary to limit expenditure on seed schemes. Further with provincial autonomy from 1937 the provinces would probably have larger financial resources and they should not expect too much from the Committee.

SUBJECT 33.—*Form of Abstract Proceedings of meetings of the Committee.*

The President said it was his idea to make the Abstract Proceedings of the Committee as far as possible a complete summary of the discussions including abstracts of the papers considered at the meetings. This record, however, should be an impersonal one, otherwise some speakers would be placed at a disadvantage and the record would not be as complete as it might. It had already been decided that the Minutes of the Committee could be shown confidentially to the Associations and Chambers of Commerce represented on the Committee and especially to the Committees of those Associations. He suggested that this procedure should be tried for one meeting to see how it worked. At the next meeting its success or otherwise could be discussed.

The meeting approved the President's suggestion.

SUBJECT 34.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

The meeting recorded the Secretary's note on the proceedings of the Punjab Provincial Cotton Committee. The Punjab Committee among other things dealt with the extension of the Cotton White Fly Research Scheme (*vide* subject 23) and a revised scheme for the investigation of the periodic partial failures of the Punjab-American Cotton Crop (*vide* subject 22).

SUBJECT 35.—*Madras Fodder Chulam Scheme—Proposed further extension of.*

The meeting adopted the report of the Agricultural Research Subcommittee recommending extension of the Scheme for a year and sanctioning a grant of Rs. 4,210.

SUBJECT 36.—*Broadcasting in the mornings of commercial news on cotton—Letter from the Government of Bombay.*

The President said that from papers on the subject it would be seen that this question was still under the consideration of the Government of India.

The Secretary's Note was recorded.

SUBJECT 37.—*Training Grants.*

The Committee decided not to re-open this matter as it had been fully discussed at the last meeting.

SUBJECT 38.—*Gujarat Boll-worm clean-up Scheme—Measures for the eradication of the boll-worm pest in Gujarat—Letter from the Government of Bombay.*

The President remarked that the letter was for record. The Committee was aware that the Government of Bombay were taking practical

interest in the matter and they* could not be expected to undertake further legislation at the moment.

The Secretary's Note was recorded.

SUBJECT 39.—*Proposed amendment in Form A prescribed under Rule 16 of the Indian Cotton Cess Rules, 1923.*

The President said that the Government of India had asked the Committee to obtain the views of the various Millowners', Associations in the matter. This was being done and the action taken was only reported for information.

The Secretary's Note was recorded.

SUBJECT 40.—*Hyderabad Pink and Spotted Boll-worm—Proposed extension of.*

SUBJECT 41.—*Hyderabad Seed Distribution and Extension Scheme—Proposed extension of.*

(The above two subjects were considered together.)

The meeting adopted the report of the Agricultural Research Sub-Committee proposing that the above Schemes be extended upto 30th September 1936 and 31st August 1936 respectively so that the proposals for extension might be carefully examined at the next meeting.

SUBJECT 42.—*Sir Albert Howard's criticism* of the Committee's work and policy.*

It was pointed out by a member that the criticism of Sir Albert Howard was practically an accusation that the Committee had not devoted sufficient resources or energy to furthering the manufacture of compost generally all over India. The manufacture of compost was one of the ways of maintaining the fertility of the soil and the investigation of soil fertility was not a problem peculiar to cotton only but it was important to all crops and all agricultural products in the country. This problem was one of the major duties of the Provincial Agricultural Departments in India. The Committee had always endeavoured not to supplant the work of the Agricultural Departments but to supplement it in particular directions relating to cotton. Two points in Sir Albert Howard's criticism appeared unjustifiable. One was the statement that the money of the Committee had been dissipated on schemes of research in entomology which had given no practical results to the grower. Since Sir Albert left India two entomological schemes had passed through the final stage and had given very valuable and satisfactory results which had proved of great benefit to the grower. The second was the statement that the Committee was wasting its time and money in many plant breeding and seed distribution schemes. Seed distribution work was of the first importance as it put money into the pockets of the cultivator and good cotton into the mills.

A press *communiqué* † replying to Sir Albert Howard's criticism was discussed and approved with certain amendments.

(Subject 43 was considered along with Subject 17.)

* Appendix XII (page 94.) † The communiqué has since appeared in the Press, *Vide* Appendix XII (page 94.)

SUBJECT 44.—*Crop Atlas of India*—Varietal Cotton Map.*

The President explained that the crop atlas of India contained two cotton maps one of which showed the density of cotton growing and the other the distribution of varieties. As a revised trade classification was under consideration, the Department of Commercial Intelligence and Statistics had suggested that the varietal map might be left out in the new edition of the crop atlas. It seemed to him that this omission would be a great mistake. The Sub-Committee had therefore gone carefully into the matter and after making certain modifications it had been possible to bring the new classification into the map. It was also decided that no attempt should be made to show density in the varietal map.

The recommendations of the Cotton Forecast Improvement Sub-Committee were approved.

SUBJECT 45.—*Report of the Sub-Committee appointed to work out details for holding a conference of scientific workers.*

The report was adopted with some amendments. *The President* said it was proposed that there should be no limit to the number of workers to attend the conference but discretion should be left to the Directors of Agriculture as to who should be sent. Travelling allowance of officers working on the Committee's schemes should be met from the grants for the schemes and that of others by the Local Governments concerned.

The President thanked the members cordially for the very kind and courteous attention shown to him during the Committee's deliberations.

The meeting terminated with a hearty vote of thanks to the President.

Summary of the Proceedings of the Special Sub-Committee to consider the question of a wider market for Indian cotton.

The Special Sub-Committee to consider the question of a wider market for Indian cotton at its meeting on 11th January 1936 first took up the subject of publication of articles on Indian cottons in the *London Times* and the *Manchester Guardian Commercial* and decided that the Director, Technological Laboratory, should continue to send articles for publication in the Textile weeklies and other magazines which might show interest in them and that any agricultural officer wishing to contribute articles to the *Manchester Guardian Commercial* might send them to the Secretary for transmission to the editor.

Under the head of popularising Indian short staple cottons among manufacturers of woollen goods the Sub-Committee approved that of the samples of cotton sent to the United Kingdom for testing, the U. P. and Mathia should be stopped.

The Sub-Committee decided that a small Sub-Committee consisting of representatives of the East India Cotton Association and the Indian Central Cotton Committee should be appointed to consider the question

of an authoritative "Guide to Indian Cottons" and that the Indian Central Cotton Committee should be represented on it by the following members:—The Vice-President (Chairman), Messrs. S. D. Saklatvala, J. H. Ritchie, R. G. Saraiya, D. McCallum and Dr. Nazir Ahmad.

Sir Richard Jackson who was present by invitation said that an exhibition of goods made out of Indian cottons particularly of Bengals and Oomras types was held in London last year. Visitors took considerable interest in these articles and asked a lot of questions on them. The exhibition was shifted to Lancashire where it aroused to a remarkable degree the interest of all those engaged in cotton trade there. He was sure that the next report of the Lancashire Indian Cotton Committee would give some more information of these exhibitions but the net result of the Committee's activity was that several mills which had never used Indian cotton before had now commenced to make use of it and that such of the mills as had been using this cotton in the past continued to use it.

In reply to a question it was stated that Indian cotton was re-exported from the United Kingdom to the extent of about 20,000 bales.

The President said that the figures for mill consumption given by the International Federation were those voluntarily supplied by mills and did not include cotton used for mixing with wool, quilting and many miscellaneous purposes. It would be worth while to compare the figures of the Lancashire Indian Cotton Committee with the United Kingdom import returns.

To a query whether the Lancashire Indian Cotton Committee had any complaint against the marking of bales in India, *Sir Richard Jackson* said that some bales were found badly marked while the marks on some others were obliterated. There was however no serious trouble on this account during the past two years.

The Vice-President said that the original method of marking had to be given up as it had worked hard on middlemen and that the obliteration of marks mentioned by *Sir Richard Jackson* might be either intentional or accidental. India had already done more than any other country in the world to make possible the tracing of the ownership of bales and she did not want to be asked to do more. The opinion of a large section of the trade was against the marking of bales and there was therefore no question of reverting to the old method.

Mr. H. C. Short's note on the Shirley Institute and Indian Cotton was recorded and a resolution was passed expressing appreciation of the excellent work of the Lancashire Indian Cotton Committee and declaring that the large increase in the takings of Indian cotton in the last three years is a striking testimony of the efficiency of their organisation and propaganda.

With regard to periodical reviews of the state of foreign trade in Indian cotton a member drew attention to the absence of any mention in the papers before the meeting of the imports of Indian cotton and other cottons by various countries and the relative tariff position and said it would be a great advantage to the trade in India if information of this kind was placed before the Sub-Committee at its meetings.

The President said that the Imperial Council of Agricultural Research had some information on the subject and that he would discuss the

question with the Director-General of Commercial Intelligence and Statistics to avoid overlapping.

The Sub-Committee then discussed further the question of the imports of Indian cotton to Germany and the report of the Indian Trade Commissioner in Hamburg. The fallen exports to China were also discussed. The Sub-Committee emphasized the necessity of watching the position lest the diminution in export should become permanent.

*Summary of the Proceedings of the Cotton Forecast Improvement
Sub-Committee.*

The Cotton Forecast Improvement Sub-Committee at its meeting on 9th January 1936 first considered reports of enquiries into the village consumption of cotton.

It was observed that the *per capita* consumption in the Central Provinces districts varied between wide limits and that also the total consumption for the whole province was only 8,000 bales.

Surprise was expressed by one member that the coldest districts used less cotton than the warmest. It was noted that this might be due to the fact that the cold districts did not produce cotton. A check might be possible only when the figures for the neighbouring districts of the adjoining provinces were available.

The report for the Central Provinces was approved subject to further examination in the Committee's office when all other reports were received.

As for the United Provinces it was noted that the total village consumption was higher than for the Central Provinces but that compared with the Punjab it was not unduly high. In the United Provinces the use of cotton for quilted garments was large. The report for the United Provinces was agreed to subject to final check in the Committee's office.

It was decided that the Directors of Agriculture, Madras and Hyderabad, and the Chief Agricultural Officer in Sind should be requested to send in their reports in time for the next meeting.

The Sub-Committee then examined the cotton forecasts of 1934-35 season.

It was noted that the number of bales actually accounted for had exceeded the forecasted crop by about half a million and that if the conventional figure of 750,000 bales for extra-factory consumption was also taken into account the discrepancy between the two figures was still wider.

In the case of Rajputana States the President observed that though the discrepancy was big when each state was taken separately, it considerably narrowed down when all states were considered together. He suggested that such of the member states of the Indore Institute as were not giving sufficient attention to cotton forecasts might be approached through the Board of Governors.

The President's suggestion was agreed to.

The Sub-Committee then considered the cotton crop forecast improvement scheme in the Bombay Presidency and agreed that the scheme should be extended for three years from the 16th June 1936 at the end of which period the Bombay and Sind Governments should be asked to make the staff permanent and use it if necessary for other crops as well.

On the subject of the crop atlas of India the Sub-Committee arrived at the following conclusions :

- (1) That the request of the Director of Agriculture, Central Provinces, not to separate Central Provinces and Berar Verums for fear of prices of Berar Verum which forms the bulk of the crop being adversely affected owing to its association with Berar Oomras, may be agreed to. The Director of Agriculture, however, had no objection to Nimar Verum being shown separately because it was mostly formed of Buri mixed with Verum and Oomras. The Sub-Committee concurred with this view,
 - (2) that the classification suggested by the Director of Statistics, Hyderabad (Deccan) for showing Raichur, Kumpta and Upland separately under item IX (2) in the Revised Scheme may be retained,
 - (3) that Sironj, Chhabra and Pirawa Parganas of Tonk, and Jhalawar and Partabgarh States may be included under "Central India,"
 - (4) that, in the Varietal Map, Bengals, Oomras, Hyderabad Gaorani, Central India, Broach, Surti, Dholleras, Southernns, Tinnevellies, Salems, Comillas, and Burmas may be shown by distinctive colours. The relation between Oomras and Central India crops and between Broach and Surti crops can be brought out by a suitable choice of like colours or different shades of the same colour,
 - (5) that Americans, Verum, Banilla and Cambodias may be shown in their respective tracts by hatching,
(N.B.—Sub-classes such as Malvi and short staple Dholleras need not be shown in the map.),
- and (6) that the sub-classes United Provinces *Deshi*, Punjab *Deshi*, Sind *Deshi*, Rajputana *Deshi*, Berar Oomras, Central Provinces Oomras, Nimar Oomras, Khandesh Oomras, Barsi-Nagpur Oomras, Hyderabad Oomras, Gujerat Dholleras, Kathiawar Dholleras, Cutch (Dholleras), Kumpta and Upland, Bijapur and Bagalkot Jowari, Westerns, White and Red Northernns, Warangal and Cocanadas and Chinnapathi may be demarcated by boundaries and named.

RESOLUTIONS.

1. "The Indian Central Cotton Committee notes with great satisfaction the Knighthood conferred on the acting President and tenders its cordial congratulations to Sir Bryce Burt on the high honour conferred on him."

Cotton Options—Proposed additions and amendments to the Bye-laws of the East India Cotton Association, Ltd.

2. "That the reply to the Bombay Government be as contained in the supplementary note presented by the President."

Appointment of Vice-President.

3. "That Sir Purshotamdas Thakurdas be re-elected Vice-President for the year 1936-37."

Standing Finance Sub-Committee.

4. "That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1936-37 :—

The President (*ex-officio*),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge,
 Mr. A. A. Sarantides,
 Rao Bahadur G. R. Kothare, and
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik."

Cotton Ginning and Pressing Factories Sub-Committee.

5. "That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. A. A. Sarantides,
 Mr. J. Vonesch,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge,
 Mr. J. Nuttall,
 Mr. W. Roberts,
 Mr. J. Tinker,
 Mr. Y. G. Deshpande,
 The Co-operative Representative—Rao Bahadur
 M. G. Deshpande, (*ex-officio*),
 Mr. Chellaram Shewaram (Co-opted member)."

Local Sub-Committee.

6. "That the following members be appointed to compose the Local Sub-Committee :—

The President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. J. Vonesch,
 Mr. A. A. Sarantides,
 Mr. Chunilal B. Mehta,
 Mr. G. C. R. Coleridge,
 Rao Bahadur G. R. Kothare."

Agricultural Research Sub-Committee.

7. "That the following members be appointed to form the Agricultural Research Sub-Committee :—

- I. The President, (*ex-officio*),
- II. The Vice-President, (*ex-officio*),
- III. The Director, Institute of Plant Industry, Indore—Mr. F. K. Jackson (*ex-officio*).
- IV. The Co-operative Representative—Rao Bahadur M. G. Deshpande (*ex-officio*),
- V. Cotton Growers' Representatives :—
 Mr. W. Roberts,
 Mr. N. M. Deshmukh,
 Mian Nurullah,
- VI. Cotton Trade Representatives :—
 Rao Bahadur G. R. Kothare,
 Mr. Chunilal B. Mehta,
- VII. Agricultural Officers :—
 Dr. W. Burns,
 Mr. J. H. Ritchie,
 Mr. H. R. Stewart,
 Mr. V. Ramanatha Ayyar,
 Dr. F. J. F. Shaw,
 Mr. R. G. Allan,
 Mr. W. J. Jenkins,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. D. N. Mahta,
 Mr. P. B. Richards,
 Mr. J. C. McDougall,
 Mr. Nizam-ud Din Hyder,
 Mr. H. H. Pandya,
 Dr. V. K. Badami,
- VIII. Additional Members :—
 Mr. Chellaram Shewaram,
 Mr. Mohammad Afzal,
 Rai Saheb Kalidas Sawhney,
 Mr. J. B. Hutchinson,
- IX. The Secretary."

Technological Research Sub-Committee.

8. "That the following members form the Technological Research Sub-Committee :—

The President (*ex-officio*),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. A. A. Sarantides,
 Dr. W. Burns,
 Dr. F. J. F. Shaw,
 Mr. H. R. Stewart,
 Mr. Chumlat B. Mehta,
 Mr. Y. G. Deshpande,
 Seth Sakarlal Balabhai,
 Rao Bahadur D. Ananda Rao Garu,
 Lala Shri Ram,
 Mr. J. Tinker,
 Mr. N. Brodie,
 Dr. Nazir Ahmad,

Co-opted Members :—Two representatives each from:—

The Bombay Millowners' Association, The Ahmedabad Millowners' Association and The East India Cotton Association, and One representative from the Karachi Cotton Association, Ltd."

Research Students Selection Sub-Committee.

9. "That the Research Students Selection Sub-Committee be composed of the following members :—

The President,
 The Vice-President,
 Dr. F. J. F. Shaw,
 Dr. W. Burns,
 Mr. P. B. Richards,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. W. J. Jenkins,
 Mr. F. K. Jackson,
 Mr. J. C. McDougall,
 Mr. H. H. Pandya,
 Mr. R. G. Allan,
 Mr. Nizam-ud Din Hyder,
 Dr. V. K. Badami,
 Dr. Nazir Ahmad."

Cotton Forecast Improvement Sub-Committee.

10. "That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President,
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 The Director of Agriculture, Punjab,

The Director of Agriculture, Madras,
 The Director of Agriculture, United Provinces,
 The Director of Agriculture, Central Provinces,
 The Director of Agriculture, Baroda,
 The Director of Agriculture, H. E. H. the Nizam's
 Government,
 The Chief Agricultural Officer in Sind,
 The Director of Statistics, H. E. H. the Nizam's
 Government,
 The Director of Land Records, Central Provinces
 and Berar,
 The Deputy Director of Statistics,
 The Agricultural Expert to the Imperial Council
 of Agricultural Research,
 Mr. J. Vonesch,
 The Statistical Officer, Board of Revenue, Madras."

Special Sub-Committee on Wider Market for Indian Cotton.

11. "That the Special Sub-Committee to consider the question of a Wider Market for Indian Cotton be composed as follows :—

The President	
The Vice-President	
Dr. F. J. F. Shaw	
Mr. H. R. Stewart,	
Mr. J. H. Ritchie,	
Dr. W. Burns,	
Mr. W. J. Jenkins,	
Mr. Nizam-ud Din Hyder,	
Mr. S. D. Saklatvala,	
Mr. J. Vonesch,	
Mr. Chunilal B. Mehta,	
Mr. Y. G. Deshpande,	
Khan Bahadur Sardar Habibullah,	
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,	
Rao Bahadur D. Ananda Rao Garu,	
Mr. J. C. McDougall,	
Mr. W. Roberts,	
Seth Isserdas Varindmal,	
Mr. R. G. Saraiya,	} Co-opted members."
Mr. Kasturbhai Lalbhai,	

12. "That the Malpractices Sub-Committee be discontinued."

Lancashire Indian Cotton Committee—Work of.

13. "This Committee desires to record its appreciation of the excellent work of the Lancashire Indian Cotton Committee. The large increase in the takings of Indian cotton in the last three years is a striking testimony to the efficiency of their organisation and propaganda."

Bombay Cotton Control Act, 1935.

14. "That the Indian Central Cotton Committee notes with satisfaction the expeditious manner in which the Bombay Cotton Control Act was passed by the Legislative Council. It is confident that this piece of legislation will go a long way towards improving the quality of cotton of the Surat tract where Goghari has been spreading and the benefit to the grower expected from the Act will soon be realised."

Fumigation of American cotton.

15. "That the recommendation of the Standing Finance Sub-Committee that the Government of India be requested to make permanent the present fees for the fumigation of American cotton of Rs. 2-7 per square bale and of Re. 1-8 per round bale be approved."

Half-yearly Report of the Publicity and Propaganda Officer.

16. "That the half-yearly report of the Publicity and Propaganda Officer be approved."

Progress Report of the Director, Technological Laboratory.

17. "That the Progress Report of the Director, Technological Laboratory, be approved."

Report of the Technological Research Sub-Committee.

18. "That the Report of the Technological Research Sub-Committee be adopted."

Report of the Research Students Selection Sub-Committee.

19. "That the Report of the Research Students Selection Sub-Committee be confirmed."

Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton.

20. "That the Report of the Special Sub-Committee to consider the question of a Wider Market for Indian cotton be adopted."

Fall in the exports of Indian cotton to China.

21. "This Committee desires to request the President to bring to the notice of the Government of India the great necessity of their devising necessary means without delay to ensure that Indian cotton is not cut out from foreign countries owing to changed financial and other economic conditions in such countries."

Report of the Agricultural Research Sub-Committee.

22. "That the Report of the Agricultural Research Sub-Committee be adopted."

*Bombay Cotton Ginning and Pressing Factories
(Amendment) Bill.*

23. "The Indian Central Cotton Committee congratulates the Bombay Government for the rapid progress they have made with the introduction of the Bombay Cotton Ginning and Pressing Factories (Amendment) Bill in the Bombay Legislative Council."

*Central Provinces Cotton Ginning and Pressing Factories
(Amendment) Bill.*

24. "The Indian Central Cotton Committee endorses the recommendation of the Local Sub-Committee regarding the detailed provisions in the Central Provinces Cotton Ginning and Pressing Factories (Amendment) Bill for dealing with watering, excessive seed, introduction of extraneous matter and mixing of different kinds of cotton."

*Mixing of old cotton and mill droppings, etc., in new crop
cotton at Dhulia, Bombay Presidency.*

25. "The Committee resolves that the complaint from Dhulia be reported to the Government of Bombay for effective prevention of this sort of malpractices reported by means of the Bombay Cotton Ginning and Pressing Factories (Amendment) Act."

Report of the Cotton Forecast Improvement Sub-Committee.

26. "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

*Report of the Sub-Committee appointed to work out details
for holding a Conference of Scientific Workers.*

27. "That the Report of the Sub-Committee appointed to work out details for holding a Conference of Scientific workers, as amended, be adopted."

Report of the Standing Finance Sub-Committee.

28. "That the Report of the Standing Finance Sub-Committee be adopted.
That the Revised Estimates for 1935-36 be approved.
That the Budget for 1936-37 as amended at this meeting of the Indian Central Cotton Committee be sanctioned.
That Messrs. S. B. Billimoria & Co. be reappointed Auditors for the year 1936-37 on a remuneration of Rs. 750."

Form of Abstract Proceedings of meetings of the Committee.

29. "That the suggestion made by the President be approved."

APPENDIX I.

SUBJECT 7.—*Bombay Cotton Control Act, 1935.*

Secretary's Note.

The Committee at its meeting in August last considered the draft of the Bombay Cotton Control Bill to prohibit the cultivation and handling of Goghari cotton in the Navsari cotton tract, and passed the following resolution :—

“The Indian Central Cotton Committee welcomes the Bombay Cotton Control Bill which the Bombay Government propose to introduce in the Local Legislative Council. The Committee is convinced that unless legislative action of this nature is taken Goghari cotton will spread rapidly in the Surat tract and ruin the reputation of the cotton growers of the tract affected.”

The Bill was introduced in the Bombay Legislative Council in September last and was passed in November last. A copy of the Act as passed is attached.

The only changes between the Act as passed and the draft Bill considered by the Committee are given below :—

Section 4.

(i) the word “knowingly” has been added in the first line of section 4 of the Act.

(ii) clauses 4 (a) and (b) of the draft Bill considered by the Committee read as follows :—

(a) cultivates or *attempts to cultivate* Goghari cotton *pure or mixed* shall, on conviction, be punishable with fine which may extend to rupees twenty for every first offence and to rupees fifty for every subsequent offence,

(b) (i) ~~mixes or attempts to mix~~ Goghari cotton with any other cotton, or

(ii) ~~possesses, uses or trades in, or attempts to possess, use or trade in~~ Goghari cotton or any other cotton mixed with Goghari cotton,

shall, on conviction, be punishable with fine which may extend to rupees five hundred for every first offence and to rupees one thousand for every subsequent offence.

In the Act as passed, the words *italicised* above have been omitted and in clause (b) (i) the words “attempts to mix” have been replaced by the words “causes to be mixed.”

Section 8.

In sub-section 2 (a) the words “or second” are additions.

P. H. RAMA REDDI.

 ACT No. OF 1935.

An Act to provide for the prohibition of the cultivation of Goghari cotton and the mixing of such cotton with other cotton and for the prohibition or restriction of the possession or use of, or trade in, Goghari cotton or cotton mixed with Goghari cotton.

(As read for the third time and passed on the 25th November 1935.)

WHEREAS it is expedient in the best interests of the growers of cotton in certain areas in the Presidency of Bombay, the cotton trade and the economic prosperity of the said Presidency to maintain the quality and reputation of the cotton grown in those areas and for that purpose to prohibit the cultivation of Goghari cotton and the mixing of such cotton with other cotton and to prohibit or restrict the possession or use of, or trade in, Goghari cotton or cotton mixed with Goghari cotton;

And whereas the previous sanction of the Governor-General required by sub-section (3) of section 80A of the Government of India Act and the previous sanction

of the Governor required by section 80C of the said Act have been obtained for the passing of this Act; It is hereby enacted as follows :—

Short title and extent. 1. (1) This Act may be called the Bombay Cotton Control Act, 1935.

(2) It extends to the whole of the Presidency of Bombay.

Definitions. 2. In this Act, unless there is anything repugnant in the subject or context—

(a) "Cotton" includes cotton plant, ginned and unginned cotton, cotton waste and cotton seed;

(b) "Director of Agriculture" means the officer appointed for the time being to be the Director of Agriculture;

(c) "Goghari cotton" means the kind of cotton known as *Gossypium herbaceum* (*Variety Goghari*); and

(d) "Controlled area" means an area specified in a notification under section 3.

Power to issue notification prohibiting the cultivation, etc., of Goghari cotton. 3. The local Government may, by notification in the *Bombay Government Gazette* in such local area and for such period as may be specified in the notification—

(a) prohibit the cultivation of Goghari cotton; or

(b) prohibit the mixing of Goghari cotton with any other cotton; or

(c) prohibit or restrict the possession or use of, or trade in, Goghari cotton or any other cotton mixed with Goghari cotton.

4. Any person, who, knowingly in contravention of the provisions of this Act or of any notification issued under section 3 or rule made under section 14—

(a) cultivates Goghari cotton shall, on conviction, be punishable with fine which may extend to rupees twenty for the first offence and to rupees fifty for every subsequent offence;

(b) (i) mixes or causes to be mixed Goghari cotton with any other cotton, or

(ii) possesses, uses or trades in Goghari cotton or any other cotton mixed with Goghari cotton shall, on conviction, be punishable with fine which may extend to rupees five hundred for the first offence and to rupees one thousand for every subsequent offence.

5. Whenever an offence under this Act has been committed, all cotton in respect of which the offence has been committed and every box, receptacle, package or covering in which such cotton is contained shall be liable to confiscation.

6. (1) When in any case tried by a criminal Court, the Court decides that anything is liable to confiscation under section 5, he may, after hearing the person, if any, claiming any right thereto and the evidence, if any, which he produces in support of his claim, order confiscation.

(2) When an offence under this Act has been committed and the offender is not known or cannot be found or when anything liable to confiscation under this Act is found and is not claimed by any person, the officer authorised by the Local Government in this behalf may hold an inquiry and may order confiscation:

Provided that no such order shall be made before the expiration of one month from the date of seizing the thing liable to confiscation or without hearing the person, if any, claiming any right thereto and the evidence, if any, which he produces in support of his claim.

7. (1) The officer authorised under sub-section (2) of section 6 may accept from any person who is reasonably suspected of having committed an offence under section 4, a sum of money as may be prescribed by rules made under section 14 by way of composition for such offence.

(2) On payment of such sum, such person, if in custody, shall be set at liberty and if proceedings in any criminal Court have been instituted against such person in respect of such offence, the composition shall be deemed to amount to an acquittal and no further proceedings shall be taken against such person in respect of such offence.

(3) Notwithstanding anything contained in sub-section (2), it shall be lawful for the court or the officer authorised under sub-section (2) of section 6 to order confiscation of anything liable to confiscation under section 5.

Power of entry and seizure. 8. (1) Any officer authorised in this behalf by the Local Government may between the hours of 6 a.m. and 6 p.m.—

(a) enter upon any land in a controlled area in which he knows or has reason to believe that Goghari cotton has been or is being cultivated in contravention of a notification under section 3, uproot or cause to be uprooted such cotton, and seize the cotton so uprooted; or

(b) enter upon or into any land, building, ship, vessel, vehicle or place in a controlled area in which he knows or has reason to believe that Goghari cotton or any other cotton mixed with Goghari cotton is kept in contravention of a notification under section 3, and seize such cotton.

(2) Every officer seizing any cotton under this section shall forthwith—

(a) make a report of such seizure to the nearest Magistrate of the First or Second Class having jurisdiction to try the offence committed in respect of such cotton, specifying in such report the particulars of such cotton, and furnish a copy of such particulars to the occupier, or person in charge of the land, building, ship, vessel, vehicle or place on or in which such seizure was made, and

(b) subject to rules made under section 14, forward such cotton to the nearest officer authorised by the local Government to receive it, for examination and for report to the Director of Agriculture.

(3) The opinion of the officer authorised under sub-section (2) regarding such cotton recorded in any document signed by such officer shall be evidence as to the nature of such cotton in any inquiry, trial or proceeding under this Act.

Duty of owner, occupier and person in charge to give facilities for inspection by authorised officer.

9. (1) Every owner, occupier or person in charge, of any land, building, ship, vessel, vehicle or place shall give all reasonable facilities to the officer, authorised under sub-section (1) of section 8, to inspect such land, building, ship, vessel, vehicle or place.

(2) Any person who contravenes the provisions of sub-section (1), shall, on conviction, be punishable with fine which may extend to rupees twenty.

Previous sanction and limitation for prosecution.

10. No prosecution under this Act shall be instituted without the previous sanction of the Director of Agriculture.

Cognizance of offences.

11. No criminal Court inferior to that of a Presidency Magistrate or a Magistrate of the Second Class shall try any offence under this Act.

12. No suit, Protection for acts done under the Act.

prosecution or other legal proceeding shall be instituted against any person for anything which is in good faith done or intended to be done under this Act.

Officer acting under the Act to be public servant.

13. Every officer acting or purporting to act in pursuance of the provisions of this Act shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code.

14. (1) The Local Government may make rules not inconsistent with the provisions of this Act for the purpose of carrying into effect the purposes of this Act.

(2) In particular and without prejudice to the generality of the foregoing provision, the Local Government may make rules for all or any of the following purposes, namely :—

(a) to prescribe the sum of money to be paid by way of composition under section 7;

(b) to prescribe the conditions subject to which cotton seized may be forwarded under section 8;

(c) any other matter which is to be or may be prescribed.

(3) Any such rule may provide that a contravention thereof shall be punishable with fine which may extend to rupees fifty.

(4) The rules made under this section shall be subject to the condition of previous publication in the *Bombay Government Gazette*.

(5) Rules made under this section shall be laid upon the table of the Bombay Legislative Council at the session of the said Council next following and shall be liable to be modified or rescinded by a resolution of the said Council and such rule shall after notification of such resolution in the *Bombay Government Gazette* be deemed to have been modified or rescinded accordingly :

Provided that when in the opinion of the Governor-in-Council such modification or rescission is likely to defeat or frustrate any of the purposes of this Act, the Governor in Council may by notification in the *Bombay Government Gazette* declare that the modification or rescission shall have no effect and thereupon the rules shall remain in force as if they had not been modified or rescinded.

APPENDIX II.

SUBJECT 8.—*The Cotton Ginning and Pressing Factories Act—*

- (a) *Bombay Amendment Bill.*
- (b) *Central Provinces Amendment Bill.*

Secretary's Note.

At its last meeting the Committee considered a letter from the Government of India stating that they were not in favour of undertaking central legislation for licensing gins and presses though they were not opposed to Local Governments introducing such legislation themselves. It was also reported at the meeting that the Central Provinces Government had already introduced a Bill for this purpose in the local Council and that the Bombay Government were drafting a Bill. Copies of the Bills as introduced in the respective local Councils of the Governments concerned are attached. The Bombay Bill has been referred to a Select Committee and the Central Provinces Bill has been circulated for eliciting opinion thereon.

(a) *Bombay Amendment Bill.*

The Local Sub-Committee at two of its meetings considered the draft bill to amend the Cotton Ginning and Pressing Factories Act in its application to the Presidency of Bombay. Mr. J. A. Madan, Secretary to the Government of Bombay, Revenue Department, was present at both the meetings and most of the suggestions made by the Sub-Committee have been incorporated in the Bill as introduced. The final draft of the bill was also considered by the Local Sub-Committee on the 21st October 1935 and generally approved. The suggestion that a provision should be made in the By-laws that except in an extreme case no license should be suspended in the middle of a season as there was the risk of penalising innocent parties by interfering with their work and that the suspension order should take effect only in the next season was forwarded to the Bombay Government for consideration.

(b) *Central Provinces Amendment Bill.*

This Bill was considered by the Local Sub-Committee in October last and the following conclusions arrived at have been communicated to the Central Provinces Government :—

1. The onus should lie on the factory owner to prove that the *kapas* or cotton complained of is not his property. If he establishes satisfactorily the ownership of cotton, proceedings should be taken against such owner.
2. The Central Provinces Government should be recommended to accept clause 4 of the Bombay Bill (as published) in place of clause 3 of the Central Provinces Bill. The Secretary in his forwarding letter should inform the Central Provinces Government that the Indian Central Cotton Committee has no organization for arbitrations on quality, or admixture in cotton and that it is probably better that the "authority" should be prescribed by rule and not specified in the Act.
3. The inspecting authority should not be below the rank of a Sub-Divisional Officer, if a revenue officer, or an Extra Assistant Director of Agriculture, if an agricultural officer. This authority should not be given to factory inspectors appointed under the Indian Factories Act.
4. In the event of Central Provinces cotton being complained of in Bombay as containing foreign matter or excessive moisture or more cotton seed than the prescribed quantity, complaint should be made to the Secretary, Indian Central

Cotton Committee, in order that he might act by taking possession of the cotton or by recording press marks and/or tracing the ownership of the cotton concerned thus enabling the Central Provinces Government to take action against the culprit under the Act. Provision should be made to this effect in the rules under the Act.

5. A copy of the Bombay Bill as printed, and as it is to be introduced, should be enclosed with the general observation that this draft is as revised after discussion with the Local Sub-Committee and embodies a number of recommendations. In particular the Sub-Committee strongly advises that the clause dealing with mixing should be a separate one as in the Bombay Bill, and that this sub-section should only be brought into operation in specified areas where *Verum* cotton (or other improved variety) is cultivated on a really substantial scale.

P. H. RAMA REDDI.

BILL NO. XLV OF 1935.

A Bill to amend the Cotton Ginning and Pressing Factories Act, 1925, in its application to the Presidency of Bombay.

(As read for the first time on 22nd November 1935.)

WHEREAS it is expedient to amend the Cotton Ginning and Pressing Factories Act, 1925*, in its application to the Presidency of Bombay for the purposes herein-after appearing; And whereas the previous sanction of the Governor-General required under sub-section (3)† of section 80A and the previous sanction of the Governor required under section 80C of the Government of India Act have been obtained for the passing of this Act; It is hereby enacted as follows :—

Short title, extent and commencement. 1. (1) This Act may be called the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1935.

(2) This Act shall extend in the first instance to the Province of Sind or such area in the said Province with effect from such date as the Local Government may by notification in the *Bombay Government Gazette* appoint. The Local Government may by notification in the *Bombay Government Gazette* extend the provisions of this Act to any other area with effect from such date as the Local Government may appoint in the said notification.

Amendment of section 2 of Act XII of 1925. 2. In section 2 of the Cotton Ginning and Pressing Factories Act, 1925*, hereinafter called the said Act—

(1) after the word, comma and dash “context—” the following shall be inserted, namely :—

“(aa) ‘Admixture of cotton’ means mixture of different varieties of cotton”; and

(2) after clause (f) the following clause shall be inserted, namely :—

“(ff) ‘licence’ means a licence granted under section 2A.”

Insertion of section 2A in Act XII of 1925. 3. After section 2 of the said Act, the following section shall be inserted, namely :—

“2A. (1) No cotton ginning factory or cotton pressing factory shall be worked without a licence granted to the owner thereof by such authority, in such form, subject to such conditions and on payment of such fee, as may be prescribed.

(2) No licence for which the prescribed fee has been paid shall be refused except on the ground that the owner or person in charge of a cotton ginning or pressing factory in respect of which the licence is applied for has been convicted of an offence punishable under this Act and no licence shall be suspended, withdrawn or cancelled unless the owner or person in charge of the cotton ginning or cotton pressing factory in respect of which the licence was granted has been convicted for an offence punishable under this Act.

(3) If any person works a cotton ginning or cotton pressing factory in respect of which a licence has not been granted or has been suspended, withdrawn or cancelled, such person shall, on conviction, be punishable with fine which may extend to five hundred rupees or, if he has been previously convicted of any offence under this sub-section, to fifteen hundred rupees.”

* XII of 1925.

† 5 & 6, Geo. V, c. 61.

Insertion of new sections 3A, 3B and 3C in Act XII of 1925.

Prohibition against watering, etc., of cotton.

4. After section 3 of the said Act, the following new sections shall be inserted, namely :—

“3A. (1) No cotton which is ginned or pressed in a cotton ginning or cotton pressing factory shall—

(a) be watered,

(b) contain any seed in excess of the prescribed proportion, or

(c) contain any foreign substance.

(2) The Local Government may also by notification in the *Bombay Government Gazette* declare that in any area specified in such notification and to which this Act has been extended, no cotton which is ginned or pressed in a cotton ginning or cotton pressing factory shall contain any admixture of cotton.

(3) Any owner of a cotton ginning or cotton pressing factory or any person in charge of such a factory—

(a) who knowing or having reason to believe that any cotton is watered, or contains seed or any foreign substance in contravention of sub-section (1), gins or presses or allows such cotton to be ginned or pressed in his factory, or

(b) who, in any area specified in the notification under sub-section (2) gins or presses or allows to be ginned or pressed any cotton which he knows or has reason to believe to contain an admixture of cotton,

shall, on conviction, be punishable with fine which may extend to fifteen hundred rupees.

(4) Any owner of cotton who knowingly contravenes any of the provisions of sub-section (1) or (2) in respect of such cotton, or abets, or knowingly allows or connives at, such contravention shall, on conviction, be punishable with fine which may extend to fifteen hundred rupees.

Explanation.—For the purposes of this section, cotton shall not be deemed to be watered, unless such cotton contains moisture in excess of the normal quantity. The normal quantity of moisture in any given quantity of cotton is the amount of moisture that such cotton is reasonably expected to have, regard being had to the place or places at or to which, and the time or times of the year in which, such cotton has been picked, collected, stored, conveyed, left, ginned or pressed. A certificate given by the prescribed authority as to the normal quantity of moisture that a given quantity of such cotton should have and the quantity of moisture that it possesses shall be evidence of such matters, until the contrary is proved ; and if the latter quantity exceeds the former it shall be evidence, until the contrary is proved, that the cotton is watered.

3B. (1) The Local Government or any officer authorised by it in this behalf may on its or his own motion or on receipt of a complaint that there has been a contravention of the provisions of section 3A in respect of any cotton, package or of any bale and in the case of a complaint, on payment of the prescribed fee by the complainant, cause such cotton or the contents of such package or bale to be examined by the prescribed person or body.

Examination of cotton, packages or bales.

(2) A certificate given by such person after examination of the contents of any bale under sub-section (1) shall be admissible in evidence and be presumptive proof of the facts mentioned therein until the contrary is proved.

3C. (1) The Local Government may authorise any officer to enter into and inspect, at any reasonable time, any cotton ginning or cotton pressing factory for the purpose of ascertaining whether there is any contravention therein of any of the provisions of this Act or of any rule made thereunder or of any of the conditions subject to which a licence has been granted in respect of such factory and to seize all things in respect of which an offence punishable under this Act appears to have been committed.

Entry and inspection.

(2) The owner or the person in charge of every cotton ginning or cotton pressing factory shall give every reasonable assistance to the inspecting officer in the performance of his duties under sub-section (1).

(3) The owner or the person in charge of such factory shall, in every instance, be permitted to attend during the inspection and the things seized during such inspection shall be sealed in the prescribed manner.”

Amendment of
section 5 of Act XII
of 1925.

5. For section 5 of the said Act, the following section shall be substituted, namely :—

“5. (1) The owner of every cotton ginning factory shall submit to the prescribed authority, within such time and in such form, as may be prescribed, weekly returns showing the quantity of cotton ginned in the factory during the preceding week and from the commencement of the season to the end of that week.

(2) The owner of every cotton pressing factory shall submit to the prescribed authority, within such time and in such form, as may be prescribed, weekly returns showing the total number of bales of cotton pressed during the preceding week and from the commencement of the season to the end of that week, and the approximate average net weight of the bales pressed in that week.

(3) The Local Government shall compile from the weekly returns submitted under sub-section (2), and shall publish in such manner as the Governor-General in Council may direct, a statement showing the total number of bales pressed in the province during the week and from the commencement of the season to the end of the week to which the returns relate :

Provided that the number of bales pressed in any individual factory shall not be published.

(4) If default is made in submitting any return as required by sub-section (1) or sub-section (2), the owner of the factory shall, on conviction, be punishable with fine which may extend to fifty rupees.

(5) Where the owner of a cotton ginning or cotton pressing factory has notified to the prescribed authority that the work of ginning cotton or pressing bales in that factory has been suspended, it shall not be necessary for the owner to submit returns under sub-section (1) or sub-section (2) until such work has been resumed.

Explanation.—In this section ‘season’ means the period notified in this behalf by the Local Government in local official *Gazette*.”

6. In section 6 of the said Act, after the words “other than” the words and figures “the standard weights and measures, weighing and measuring instruments authorised under the Bombay Weights and Measures Act, 1932,* in districts or areas in which Parts II, III, V and VI of that Act are in force or elsewhere other than” shall be inserted.

Amendment of
section 7 of Act XII
of 1925.

6A. In sub-section (1) of section 7 of the said Act, after the words “for the purpose of sections” insert the figures and letters “3A, 3C.”

Amendment of
section 13 of Act XII
of 1925.

7. In section 13 of the said Act, after clause (a), the following clauses shall be inserted, namely :—

“(aa) the authority by whom the form in which, the conditions subject to which and the fees on payment of which, a licence may be granted under sub-section (1) of section 2-A ;

(ab) the proportion of seed which may be contained in cotton ;

(ac) the person authorised to give a certificate regarding the quantity of moisture contained in any cotton and other matters specified in section 3A ;

(ad) the person authorised to examine bales under section 3B ;

(ae) the procedure for making a complaint and causing the contents of a bale to be examined and the fee for examination of the contents of a bale under sub-section (1) of section 3B ;

(af) the manner in which the things seized shall be sealed under section 3C.”

Addition of sec-
tions 16 and 17 in
Act XII of 1925.

8. After section 15 of the said Act, the following sections shall be added, namely :—

“16. Whoever contravenes any of the provisions of this Act or any rule made thereunder or any of the conditions subject to which a licence has been granted to him shall, on conviction, if no other penalty is already provided in this Act for such contravention, be punishable with fine which may extend to five hundred rupees or, if he has previously been convicted of an offence under this Act or any rule made thereunder, with fine which may extend to fifteen hundred rupees.

17. (1) The officer authorised by the Local Government in this behalf may accept from any person whose licensee is liable to be suspended, withdrawn or cancelled under this Act, or who is reasonably suspected of having committed an offence under this Act, a sum of money in lieu of such suspension, withdrawal or cancellation or by way of composition for the offence which may have been committed, as the case may be.

(2) On payment by such person of such sum to such officer, such person if in custody shall be set at liberty and if criminal proceedings shall have been instituted against such person, the composition shall be held to amount to an acquittal."

9. In sub-sections (5) and (6) of section 3, in sub-section (2) of section 4 in sub-section (2) of section 6, in sub-section (3) of section 7, in sub-section (2) of section 8, and in sub-section (3) of section 9 of the said Act for the words "shall be punished" the words "shall, on conviction, be punishable" shall be substituted.

Amendment of sections 3, 4, 6, 7, 8 and 9 of Act XII of 1925,

STATEMENT OF OBJECTS AND REASONS.

The Cotton Ginning and Pressing Factories Act, 1925, was passed for the purpose of providing for the maintenance of registers by both kinds of factories and the submission of returns by the owners of pressing factories. These provisions serve statistical purposes but are not sufficient for the prevention of certain malpractices which are prevalent in ginning and pressing factories. Some of the malpractices which require to be stopped if the purity of improved grades of cotton is to be maintained and the cotton grower is to get an adequate price for superior cotton are:—(1) watering of cotton, (2) mixing of different varieties of cotton, (3) false packing. In consequence of these malpractices, the reputation of superior cottons has suffered considerably and it has been from time to time suggested to Government that they should take steps to check them. It has therefore been suggested that cotton ginning and pressing factories should be licensed and the ginning and pressing of cotton which has been watered or mixed should be prohibited. The object of this Bill is to give effect to this suggestion. As the area under improved varieties of cotton under the Lloyd Barrage is fast increasing, and as it is necessary to protect this area from the very beginning, it is proposed to extend the provisions of this Act only to Sind in the first instance.

Notes on Clauses.

Clause 1.—As stated above it is proposed to extend the Act to Sind or to a portion thereof in the first instance. Power is left to Government to extend it to other parts of the Presidency, if it is considered desirable to do so.

Clause 3.—This clause requires the owners of cotton ginning and pressing factories to take out licences for working the factories. Failure to take out a licence is made punishable.

Clause 4.—This clause provides that no cotton shall be ginned or pressed, if it is watered, contains seed in excess of the prescribed quantity or contains any foreign substance. It is also proposed that in particular areas where it is desirable to prevent admixture altogether, Government should have the power to declare that no cotton which contains admixture shall be ginned or pressed in that area.

New section 3B proposed to be inserted provides for the examination of the packages or bales of cotton in order to ascertain whether it is watered, or contains any excess seed, foreign substance or contains admixture. New section 3C empowers a prescribed officer to enter any premises for such inspection.

Clause 5.—This clause amends section 5 of the principal Act and requires the owners of cotton ginning factories also to submit returns.

Clause 6.—This clause amends section 6 of the principal Act and makes it consistent with the Bombay Weights and Measures Act, 1932.

Clause 7.—This is a rule making clause.

Clause 8.—This clause provides for penalties for any contravention of any provisions of the Act or the rules thereunder, where no specific penalty has been provided for. The clause allows for the composition of offences.

1st October 1935.

R. D. BELL.

[To be introduced in the Central Provinces Legislative Council.]

CENTRAL PROVINCES BILL NO. 33 OF 1935.

THE COTTON GINNING AND PRESSING FACTORIES
(CENTRAL PROVINCES AMENDMENT) BILL, 1935.

*A Bill to amend the Cotton Ginning and Pressing Factories Act, 1925, *
in its application to the Central Provinces.*

WHEREAS it is expedient to amend the Cotton Ginning and Pressing Factories Act, 1925,* in its application to the Central Provinces, in manner hereinafter appearing ;

AND WHEREAS the previous sanction of the Governor-General required under sub-section (3) of section 80A of the Government of India Act has been obtained to the passing of this Act ;

It is hereby enacted as follows :—

Short title and commencement.

1. (1) This Act may be called the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1935.

(2) It shall come into force on such date as the Local Government may, by notification, appoint in this behalf.

Insertion of section 2-A in Act XII of 1925.

2. After section 2 of the Cotton Ginning and Pressing Factories Act, 1925* (hereinafter referred to as the said Act), the following section shall be inserted, namely :—

License for working cotton ginning factory or cotton pressing factory.

“2A. (1) No cotton ginning factory or cotton pressing factory situate in the Central Provinces shall be worked without a licence from the Local Government in such form and subject to such conditions as may be prescribed.

(2) Whoever contravenes the provision of sub-section (1) shall be punishable with fine which may extend to five hundred rupees or, if he has previously been convicted of an offence under sub-section (1), to fifteen hundred rupees.

(3) No licence for which the prescribed fee has been paid shall be refused, suspended or cancelled except on the ground that the owner or person in charge of the factory concerned has been convicted for the contravention of the provisions of section 3A.”

Insertion of sections 3-A, 3-B and 3-C in Act XII of 1925.

3. After section 3 of the said Act, the following sections shall be inserted, namely :—

Liability for proper packing of bales.

“3A. The owner or the person in charge of every cotton pressing factory shall be responsible for seeing that—

(a) no ginned cotton is watered at the time of pressing into a bale in the factory ;

(b) no ginned cotton, which is pressed into a bale in the factory, contains seed or moisture in excess of the prescribed proportion ;

(c) no bale pressed in the factory contains any admixture of cotton without specifying the fact conspicuously on the outside of the bale in the prescribed manner ; and

(d) no bale pressed in the factory contains any substance other than cotton.

3B. (1) Subject to rules made under this Act, the Local Government or any officer authorized by it in this behalf may, on receipt of a complaint that there has been, or is suspected to have been, a contravention of the provisions of section 3A in respect of any bale and on payment of the prescribed fee by the complainant, cause the contents of such bale to be examined by the Indian Central Cotton Committee or the East India Cotton Association.

(2) A certificate given by the said Committee or Association after examination of the contents of any bale under sub-section (1) shall be deemed to be conclusive proof of the facts mentioned therein and shall be admissible in evidence.

3C. (1) The Local Government may authorize any officer to enter into and inspect, at any reasonable time, any cotton ginning factory or cotton pressing factory for the purpose of ascertaining whether there is any contravention of any of the provisions of this Act therein.

(2) The owner or the person in charge of every cotton ginning factory or cotton pressing factory shall give every reasonable assistance to the inspecting officer in the performance of his duties under sub-section (1)."

Amendment of section 5, Act XIII of 1925. 4. For section 5 of the said Act, the following section shall be substituted, namely :—

"5. (1) The owner of every cotton ginning factory shall submit to the prescribed authority, within such time and in such form, as may be prescribed, weekly returns showing the quantity of cotton ginned in the factory during the preceding week and from the commencement of the season to the end of that week.

(2) The owner of every cotton pressing factory shall submit to the prescribed authority, within such time and in such form, as may be prescribed, weekly returns showing the total number of bales of cotton pressed during the preceding week and from the commencement of the season to the end of that week, and the approximate average net weight of the bales pressed in that week.

(3) The Local Government shall compile from the weekly returns submitted under sub-section (2), and shall publish in such manner as the Governor-General-in-Council may direct, a statement showing the total number of bales pressed in the province during the week and from the commencement of the season to the end of the week to which the returns relate :

Provided that the number of bales pressed in any individual factory shall not be published.

(4) If default is made in submitting any return as required by sub-section (1) or sub-section (2), the owner of the factory shall be punishable with fine which may extend to fifty rupees.

(5) Where the owner of a cotton ginning factory or a cotton pressing factory has notified to the prescribed authority that the work of ginning cotton or pressing bales in that factory has been suspended, it shall not be necessary for the owner to submit returns under sub-section (1) or sub-section (2) until such work has been resumed.

Explanation.—In this section 'season' means the period notified in this behalf by the Local Government in the local official *Gazette*."

Amendment of section 13, Act XIII of 1925. 5. In section 13 of the said Act, after clause (a), the following clauses shall be inserted, namely :—

"(aa) the form and conditions of a licence to be granted under sub-section (1) of section 2A ;

(ab) the proportion of seed or moisture which may be contained in ginned cotton and the manner for specifying the fact of any admixture of cotton on the outside of a bale under section 3A ;

(ac) the procedure for making a complaint and causing the contents of a bale to be examined and the fee for examination of the contents of a bale under sub-section (1) of section 3B."

Addition of section 16, Act XII of 1925. 6. After section 15 of the said Act, the following section shall be added, namely :—

"16. Whoever contravenes any of the provisions of this Act or of any rule made thereunder shall, if no other penalty is already provided in this Act for such contravention, be punishable with fine which may extend to five hundred rupees or, if he has previously been convicted of an offence under this Act or any rule made thereunder, with fine which may extend to fifteen hundred rupees."

STATEMENT OF OBJECTS AND REASONS.

The object of the Bill is to check certain malpractices like watering and mixing of cotton and false packing of bales which are reported to be prevalent on a growing scale in the cotton ginning and pressing factories of the province. The reputation ,

and with it the price, of the local cotton are already said to have suffered in consequence of these fraudulent practices, and if they remain unchecked there is an imminent danger of the cotton from the province coming into permanent disrepute and of the interest of the cotton grower suffering irretrievably. Legislation for the purpose is strongly advocated by both the Provincial and the Indian Central Cotton Committee as well as the Central Provinces Board of Agriculture. The Bill has been framed on the lines recommended by these bodies.

2. The opportunity is also being taken of prescribing returns of cotton ginned by the factories. These returns have recently been prescribed by rules, but it is considered desirable to prescribe them in the Act itself.

NAGPUR:
The 8th August 1935.

E. GORDON,
Member in Charge.

APPENDIX III.

SUBJECT 11.—*Half-yearly Report of the Publicity and Propaganda Officer.*

With the half-year under report, the Publicity and Propaganda Department of the Indian Central Cotton Committee enters upon the fourth year of its career and it may now be opportune to glance at the items of the Department's activities during this period in order to bring out the main purpose of the scheme and to point out how far it has been achieved. The Department has directed its efforts along two main channels; firstly, wide press publicity both in India and abroad for disseminating knowledge of improvements effected in the quality of Indian cottons; and secondly, vigorous field propaganda by the Publicity Officer in person in collaboration with Provincial Departments of Agriculture, in furtherance of regional campaigns for dealing with specific cotton problems. Under the first category fall Committee's varied schemes both scientific and practical so that the interested public could lay its hands on them quickly and easily. In the second group are included propaganda tours in different provinces of India to carry the fruits of experimental work to the grower and other interests concerned.

Publicity.

The Press *Communiqués* issued by the Department are supplied to the Press through the Associated Press of India, Bombay, which has branches all over the country. Through this news agency a constant stream of informational material is kept flowing. But the contact between the Press in India and the Publicity Department is not confined to mere distribution of Publicity material through this agency but is extended to close personal touch with the editors of leading dailies in the country. The Press outside India is reached directly by the Department. The fact that prominent newspapers of countries like Great Britain, Italy, Germany, U.S.A., East and South Africa, Australia, China, Japan, Egypt, Iraq, Malaya and Ceylon readily allot their columns to the Press *Communiqués* of the Department and often write editorial comments on them shows the extent of the interest taken in the Committee's activities. The voluminous files kept in the Publicity Department of cuttings from the world's press reflect the importance attached to the Committee's work. These cuttings run into thousands of pages devoted to the most varied subjects relating to the cotton industry in India and the important role which the Indian Central Cotton Committee is playing in its development.

Publicity Literature.

This, however, represents only a part of the publicity material broadcast by the Department. Illustrated pamphlets, leaflets, bulletins, brochures, etc., have formed an equally important medium, through which information of more detailed technical character is made available to the interested public in a readable form. A comprehensive series of this class of literature—23 in number—embodying the results of scientific research schemes on various problems of cotton has been published so far.

Propaganda.

Propaganda tours undertaken by the Publicity Officer in order to demonstrate to the eye and mind of the cultivator the results of cotton researches and to show how far they are improvements on existing methods have extended to many parts of India. They include visits in connection with propaganda campaigns such as the Broach clean-up campaign, campaign for the popularising of cotton cultivation

in the Barrage areas of Sind; encouraging Jayawant in preference to the local Kumpta variety in the Dharwar District of the Bombay Presidency, campaign associated with the extension of the Pink Boll-worm control measures in the United Provinces and the latest campaign for the elimination of the inferior Goghari from the Surat tract. Besides these, study tours have also been undertaken in the Punjab and Central Provinces. Six Indian States were also visited in order to impress upon the owners of cotton pressing factories the desirability of submitting Weekly Press Returns showing the total number of bales of cotton pressed during the preceding week and from the commencement of the season to the end of the week, regularly and punctually.

Exhibitions and Shows.

The Publicity and Propaganda Department took part during the first three years in the following Exhibitions:—

- (1) Pandharpur Agricultural Cattle and Village Improvement Show,
- (2) Industrial Exhibition of the Gwalior Durbar,
- (3) Indian Empire Exhibition, Lahore,
- (4) The Bharatpur State Exhibition,
- (5) All India Khadi Exhibition, Bombay,
- (6) The Indore Exhibition,
- (7) The Chikodi Agricultural Show, and
- (8) Agricultural Exhibition at Nanded.

Suitable propaganda material supported by specimens of improved types of Indian cottons and yarn exhibits prepared at the Central Cotton Committee's Technological Laboratory at Matunga; models presenting photographs, charts, graphs, posters, etc., etc., have been essential factors in disseminating information at regional district or community Exhibitions and Fairs. Exhibits afforded the observer opportunities to comprehend quickly progress in Agricultural Science and practice and enabled him to apply knowledge to the solution of his own problems.

Enquiries.

A large number of enquiries were made and attended to by the Publicity Department of the Committee from this country as well as from abroad, from Government institutions, trade associations and private concerns. Its help has been sought for information in scientific investigations, based on the latest knowledge on marketing and other problems in connection with the improvement and export of Indian cotton. These enquiries encouraged the belief that the widening of informational service has attracted increasing attention from both the trade and the general public, here and abroad.

Notable events during the half-year under Report.

The half-year under review was distinguished by a determined drive initiated by the Department of Agriculture, Bombay, with the Committee's active co-operation to eliminate the inferior cotton known as Goghari from the Surat tract. This type of cotton has been found to be undesirable not only in itself but also because it is mixed with superior varieties, thereby spoiling the reputation of one of the finest Indian cotton, Navsari 1027 A.L.F. The united efforts of the Department of Agriculture, Bombay, and the Indian Central Cotton Committee to eradicate this inferior variety of cotton from the Surat tract met with only partial success. The main factor which stood in the way of complete success was the higher ginning percentage of the inferior variety. The trader encouraged mixing of the two varieties so as to be able to palm off the mixture as genuine Navsari.

To put an end to this evil practice of mixing, legislative prohibition for cultivation of Goghari was considered the only means. The Bombay Government accordingly brought forward the Bill to prohibit the cultivation of Goghari cotton and the mixing of such cottons with other cottons, etc., etc., which has since become law.

In the work of securing the support of the members of the Bombay Legislative Council for the measure, the Publicity Department played its part. An illustrated pamphlet, a hand-bill and a special article were prepared and distributed to the members at Poona and at the extended session of the Council in Bombay. The *Times of India*, the *Bombay Chronicle* and local vernacular papers evinced great interest in this important measure and published the special article on the subject. The *Times of India* made appreciative editorial comments upon the Publicity Department's unceasing campaign for educating the members of the Council on the urgent need for the measure.

Council Hall Demonstration.

A special demonstration was staged in a large *shamiana* in the compound of the Council Hall at Poona. Samples of 1027 A.L.F., Goghari and mixed *kapas*; yarn exhibits, etc., prepared at the Committee's Technological Laboratory at Matunga, were placed on view, together with Baer patterns of 1027 A.L.F., Goghari and mixture, combed hals of 1027 A.L.F. and Goghari and photos, charts, graphs, diagrams, pictures, etc., showing the characters and monetary value of the two varieties as well as of their mixture. The demonstration was organised in a manner calculated to please as well as instruct at a time when the session of the Legislative Council was in progress and was acknowledged to be a source of enlightenment and profit to the members representing agricultural, trade and industrial interests. Official and non-official members freely asked questions which were adequately answered.

A similar demonstration, although on a smaller scale, was held at the extended session of the Council in Bombay which finally passed the measure into law.

Press Communiques.

Work in this direction continued to make progress. A new series of *communiques* on the following subjects received wide publicity in a large number of newspapers and journals in all parts of India and abroad.

(1) *Elimination of Goghari cotton from Surat tract.*—This press *communique* was issued to bring home to the members of the Bombay Legislative Council, the agriculturists in Surat and the trade in general the necessity for the eradication of Goghari cotton from the Surat tract, in view of the great damage done to the reputation of the superior variety 1027 A.L.F. by the mixing of both the varieties and passing the mixture off as genuine Navsari cotton. Legislative intervention was the only means of salvaging the reputation of the Navsari cotton. The Bill designed to secure this object came up before the last session of the Legislative Council.

(2) *Development of cotton cultivation in Sind.*—This was a review of the Annual Report of the Department of Agriculture in Sind for the year 1933-34 and recorded the great increase in the total area under cotton in Sind in the year 1933-34 as compared with the average acreage during the preceding ten years. This *communique* also gave a short description of the botanical research work conducted at Sakrand and at the Government Seed Farm, Mirpurkhas; of investigations conducted into the physiological aspect of cotton cultivation and of the activities of the Sind Cotton Extension Scheme, financed by the Indian Central Cotton Committee on the Left and Right Bank areas of the river Indus.

(3) *Combing of good quality Indian cottons.*—This press note gave a summary of the detailed experiments conducted at the Technological Laboratory, Matunga, on fibre length and irregularity. The results relating to four standard Indian cottons, viz., Punjab-American 289F, Cambodia Co. 1, Surat 1027 A.L.F. and Nandyal 14, were culled from the Technological Bulletin, Series A, No. 27 and were given special prominence in the review which was appropriately broadcast.

(4) *Development of cotton growing in Bombay Presidency.*—This *communique* reviewed work of cotton improvement accomplished by the Department of Agriculture, Bombay Presidency, during the year 1933-34. The rapid multiplication and distribution of improved varieties of cotton seed in various parts of the Presidency with financial assistance from the Indian Central Cotton Committee were also dealt with. Two notable steps taken by the Department to advance the cause of good cotton in Gujerat were, firstly the settlement of the controversy on the relative merits of 1027 A.L.F. versus 1A and the ultimate decision in favour of the former and secondly the drive to clear the Surat tract of Goghari cotton. Short descriptions were given of the working of the Gujerat Boll-worm Clean-up Scheme. The Khandesh Cotton Breeding Scheme and the Broach Cotton Breeding Scheme, all financed by the Indian Central Cotton Committee.

(5) *Facilities for training at the Technological Laboratory, Matunga.*—This was a press notification to invite applications for the two studentships for training in the elements of spinning and the routine methods of testing cotton fibre and yarn at the Technological Laboratory.

(6) *Amalner Cotton Market.*—Briefly described the working of the cotton market at Amalner in the Bombay Presidency, under the Bombay Cotton Markets Act, XIII of 1927, and the success achieved in helping and protecting the interests of the cultivator during the year 1934-35. The market works under the control of a Cotton Market Committee of 14 members with a Chairman.

(7) *Fibre-maturity in relation to fibre and yarn characteristics of Indian cottons.*—Dealt with the experiments conducted at the Technological Laboratory to ascertain how far season, locality of growth, heredity, etc., affect the fibre maturity of Indian cottons and to what extent the appearance and dyeing qualities of fabrics made out of these cottons are influenced by the degree of maturity of cotton hairs.

(8) *The 31st Half-yearly meeting of the Indian Central Cotton Committee.*—As usual, a *communiqué* was published giving a short report of the important discussions at the meeting of the Committee on the 19th and 20th August 1935.

Pamphlets.

In addition to press *communiqués*, the Publicity and Propaganda Department published pamphlets, leaflets, etc., setting forth full results of study of a number of cotton problems. The pamphlets issued were:—

(1) "*Elimination of Goghari from the Surat tract will re-establish the reputation of Navsari cotton.*"—When the question of elimination of Goghari cotton from the Surat tract was before the Bombay Legislative Council at its last session, it was considered necessary that side by side with legislation propaganda should be conducted to educate the representatives of the cultivator and the trade in the evil effects of mixing Goghari with the superior variety, 1027 A.L.F. and how it adversely affected the economic well-being of the cultivators of the tract. To meet this need an illustrated pamphlet was prepared as also a hand-bill. Copies were distributed to members of the Bombay Legislative Council and to agricultural, marketing and commercial bodies in India and abroad. This pamphlet explains the superiority in quality and value of the Navsari 1027 A.L.F. cotton as compared with Goghari, the disadvantages of mixing these two varieties and the views on the question of those affected by the evil of mixing.

(2) A Gujarathi version of this pamphlet was also brought out and adopted to propaganda in the Baroda State.

(3) "*Spotted Boll-worms (Earias Fabia and Earias insulana in South Gujarati.*"—This is an illustrated pamphlet in English detailing the results of the Surat Physiological Scheme and describing the investigations made from 1923 to 1934 on the Spotted Boll-worm in South Gujarati in order to study the life and habits of this important pest of cotton and the estimation of damage caused by it. It also includes a summary of the clean-up campaign organised in the Broach district to determine the efficiency of control measures.

(4) "*The Indian Central Cotton Committee, its objects, activities and achievements.*"—This pamphlet gives a comprehensive description of the Committee's varied activities and its achievements in the realm of legislation designed to promote the production, marketing and manufacture of Indian cottons and in the sphere of research. The *Bombay Chronicle* writing editorially said "the booklet is indispensable for those interested in the growth or manufacture of cotton."

Leaflets.

(1) The Gujarathi leaflet on the use of plant puller was reprinted a third time to meet increased demand from Baroda and other places.

Hand-bills.

(1) *The Plant Puller* hand-bill was also reprinted a third time in Gujarathi in order to meet heavy demand from the Director of Agriculture, Baroda.

(2) "*Save Indian Cotton.*"—The hand-bill was prepared in connection with the efforts made by the Publicity and Propaganda Department to eliminate Goghari. A Gujarathi version, with necessary modifications, was also prepared in connection with a similar campaign proposed to be conducted in Baroda.

Posters.

The idea of replacing the poster "India's Bid for supremacy in World's Cotton Markets" with a different attractive design and the latest available figures is now in hand. To cope with the immediate demand for this poster a number of copies of the old edition were brought up to date and printed.

A poster to help forward the campaign for the elimination of Goghari from the Surat tract is also under preparation.

Exhibitions.

(1) A notable event of the half-year was the Publicity Department's participation in the Rural Life Exhibition at Baroda which lasted for a week commencing from the 1st of January 1936. This Exhibition was organised in celebration of the Diamond Jubilee of H. H. the Maharaja of Baroda. The Viceroy, who was in Baroda on the occasion, honoured the organisers with a visit to the Exhibition. A number of cotton exhibits kindly placed at our disposal by the Director of the Technological Laboratory, a large number of photos and charts showing the superiority of 1027 A.L.F. cotton over Goghari, posters and other publications of the Publicity Department were on view at the Exhibition.

(2) *The Fair in Rajputana.*—In October last the Extension Officer of the Institute of Plant Industry, Indore, wrote to the Department to send copies of all maps, charts, etc., issued so far by the Publicity and Propaganda Department. These were required for purposes of demonstration and distribution at the Fair. Twenty copies each of the Luxmi poster in Hindi and Urdu, thirty copies in English and five copies each in Hindi and Urdu of the Pink Boll-worm pest of cotton poster were despatched to him along with 200 copies in Hindi of the leaflet on the Institute of Plant Industry in Indore, and some other publications of the Department.

(3) *Crop Demonstration in Amraoti and Yeotmal.*—At the request of the Extra Assistant Director of Agriculture, Amraoti, suitable propaganda literature was sent to him for use in connection with demonstrations of improved crops held in Amraoti and Yeotmal districts.

(4) *Fairs and Demonstrations in Warora, Central Provinces.*—Publications of the Department were also supplied to (1) the Agricultural Assistant, Warora, Central Provinces, and (2) the Deputy Director of Agriculture, Gujerat, in connection with village uplift work in several villages which were visited by H. E. the Governor of Bombay from the 19th to 22nd December 1935.

Increased demand for Publicity publications and greater number of enquiries.

The half-year now under review was remarkable for an increased demand for the publications of the Department as well as for special information bearing on the Committee's work. A large number of enquiries were received and attended to by the Department from this country as well as from abroad. The agencies which evinced interest in the publications of the Department included the Eastern News Agency, London, the Lancashire Indian Cotton Committee, Manchester, Universities of California and Berkeley. Local enquiries from many parts of India like Coimbatore, Berar, Indore, Jaipur City, Karachi, Amritsar and other places were also dealt with. From Madura Mr. Ponniah, Lecturer in the American College wrote for some of the publications of the Committee and also made several enquiries regarding the different aspects of the activities of the Committee with reference to the recommendations of the Indian Cotton Committee's report of 1919. In addition to supplying all the press *communiqués* on Madras schemes and some other publications all his enquiries were replied to. Similar enquiries were received from other organisations and individuals in India.

Appreciation of Committee's work.

In assessing the value of the Committee's work, several newspapers, both in India and outside, have from time to time written in appreciative terms. For instance the *Times of India* commenting on His Excellency the Governor's address at the last half-yearly meeting of the Indian Central Cotton Committee in which His Excellency referred to the Lancashire's readiness to make more use of Indian cotton, if uniformity in quality was assured, observed as follows:—

“To this persistent publicity and propaganda are essential; the Indian Committee are awake to this need. Its Publicity and Propaganda Department has been instrumental in checking to some extent the evils formerly prevalent in the cotton trade. Particularly successful was its campaign for the elimination of the boll-worm pest in Surat, which adversely affected the quality of the local crop. Its task will be considerably lightened by the legislative measures shortly to be undertaken, and the result should be an appreciable improvement in both the quality and quantity of Indian cotton supplies. That in itself must justify the existence and labours of the Indian Central Cotton Committee.”

R. D. MIHRA.

APPENDIX IV.

SUBJECT 13.—*Summary of Proceedings of the Local Sub-Committee.*

Secretary's Note.

Three meetings of the Local Sub-Committee were held since the meeting of the Indian Central Cotton Committee in August 1935. Mr. M. Durutti having resigned, his place on the Sub-Committee was taken by Mr. A. A. Sarantides, who succeeded the former on the Committee.

2. As desired by the Committee at its last meeting, the Sub-Committee considered the suggestion of Mr. Coleridge that an annual official meeting should be held in Liverpool between representatives of the Indian Central Cotton Committee who happened to be in England and the Directors of the Liverpool Cotton Association at which matters of common interest to both would be discussed. The decision arrived at was that as Mr. H. C. Short, Cotton Commissioner of the Lancashire Indian Cotton Committee, was fully competent to deal with all questions of this nature that might arise, there was no necessity of holding such meetings for the present. The suggestion of Sir Bryce Burt that the services of Mr. W. Ellis Jones, one of the ex-Vice-Presidents of the Committee, now permanently settled in Liverpool, should be utilised by the Committee as a link between itself and the Lancashire Indian Cotton Committee was also considered by the Sub-Committee and it was decided that it was unnecessary to requisition the services of Mr. Ellis Jones at present as the Lancashire Indian Cotton Committee had their Cotton Commissioner in India who was available for consultation here.

3. Complaints regarding watering of cotton, mixing and incorrect marking of bales and action taken thereon were considered and recorded by the Sub-Committee.

4. At its meeting held on the 15th March 1935, the Sub-Committee considered a letter from Messrs. Volkart Brothers, Bombay, stating that short staple *kaptas* from Rajputana was being imported by rail into Khandwa for purposes of mixing with the superior local cottons. A report was made to the Director of Agriculture, Central Provinces, who requested the Local Government to declare the districts of Nimar and Hoshangabad as protected areas under the Cotton Transport Act. The Local Government have since issued the necessary notification declaring the above districts as protected areas under the Cotton Transport Act.

5. The Standards Sub-Committee at its meeting held in January 1934 decided that in so far as Kumpta cotton was concerned, the number and description of the standards should be "Good," "Fully Good," and "Fine."

At the meeting of the Standards Sub-Committee held on the 10th September 1935, Rao Bahadur B. L. Patil, representative of the cotton growers of the Kumpta tract, suggested that the standards for Kumptas should start, as in the case of other cottons, from "Fully Good" instead of from "Good." This suggestion together with a note on the subject from Rao Bahadur B. L. Patil was considered by the Sub-Committee but as the proposal was thought to be unworkable it was not accepted.

6. The Sub-Committee considered a letter from Mr. G. C. R. Coleridge regarding the unfair treatment of Indian cotton of 15/16" staple as a result of its exclusion from the new Liverpool Hedge Contract for Outside Growths and decided that before any action was taken on the letter the opinion of Sir Richard Jackson should be obtained. The reply received from Sir Richard Jackson was considered by the Sub-Committee at its subsequent meeting and it was decided that further consideration of the subject should be postponed till the reply of the President, Liverpool Cotton Association, was received to the communication addressed to him by the Vice-President.

7. Other subjects which engaged the attention of the Sub-Committee were :—

- (a) Bill to amend the Cotton Ginning and Pressing Factories Act, 1935, in its application to the Presidency of Bombay,
- (b) Central Provinces Cotton Ginning and Pressing Factories (Amendment) Bill
- (c) Mixing of mill fly in Khandesh cotton.

These subjects are dealt with separately on the agenda of the full Committee.

P. H. RAMA REDDI.

APPENDIX V.

SUBJECT 14.—*Technological Research—Summary of the progress Report of the Director, Technological Laboratory.*

PROGRESS REPORT No. 25 OF THE DIRECTOR,
TECHNOLOGICAL LABORATORY.

The present report gives an account of the work done at the Technological Laboratory from the 1st June 1935 to the 31st October 1935. The work done during this period will be described under the following five heads :—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. SPINNING LABORATORY.

The following classified table gives the number of samples received for tests during the period under review together with the figures for the corresponding period of last year for purpose of comparison :—

TABLE I.

	1st June 1935 to 31st October 1935.	1st June 1934 to 31st October 1934.
Agricultural Departments	73	89
Standard Cottons	..	1
Trade Samples	18	25
Fibre Test Samples	41	47
Yarn Test Samples	5	8
Special Test Samples	28	19
Total ..	165	219

It will be seen that the number of special test samples which pertain to the technological investigations shows an increase over the corresponding period of last year, but the number of other samples shows a decrease, which is most noticeable in the case of those received for fibre tests alone. The number of such samples is necessarily a variable quantity as it depends to a very large extent upon the various experiments for selection work which are under progress in the farms of Cotton Breeders.

The number and distribution of samples, lots and counts spun during the period under review are given in the following table together with the figures for the corresponding period of last year :—

TABLE II.

	Samples.		Lots.		Counts.	
	1st June 1935 to 31st October 1935.	1st June 1934 to 31st October 1934.	1st June 1935 to 31st October 1935.	1st June 1934 to 31st October 1934.	1st June 1935 to 31st October 1935.	1st June 1934 to 31st October 1934.
Bombay	42	31	42	31	126	95
Punjab	35	34	35	34	111	103
United Provinces..	..	..	..	..	..	..
Madras	31	58	31	58	93	174
Central Provinces..	5	..	5	..	15	..
Miscellaneous ..	5	49	5	49	15	147
Total	118	172	118	172	360	519
Standard	7	1	14	2	82	12
Trade Tests ..	33	27	33	27	88	79
Technological Tests	31	24	49	46	194	247
Grand Total ..	189	224	214	247	724	857

The number of trade samples and the number of samples on which technological tests were performed are greater than those for the corresponding figures of last year, but the number of agricultural samples shows a decrease. This decrease is naturally related to the receipt of comparatively fewer samples from the agricultural officers. As a consequence of this decrease, the total number of samples, lots and counts spun during the period under review is somewhat less than that spun during the corresponding period of last year. The results of the tests carried out on these samples were as usual embodied in spinning test, fibre test and yarn test reports. The following table gives the number and distribution of the reports issued during the period under review together with the corresponding figures of last year :—

TABLE III.

	1st June 1935 to 31st October 1935.	1st June 1934 to 31st October 1934.
Spinning Test Reports	57	57
Fibre Test Reports	6	9
Yarn Test Reports	4	4
Total ..	67	70

It will be seen that the number of spinning test and yarn test reports was the same as issued in last year but the number of fibre test reports is slightly less. As a result the total number of reports issued during the period under review is 3 less than that for the corresponding period of last year. These reports dealt mostly with the routine tests on agricultural and trade samples. Among these the following may be mentioned as being of special interest :—

A. Agricultural Samples.

1. *The effect of differential irrigation on the fibre properties and spinning quality of cotton.*—At the last meeting of the Technological Research Sub-Committee held on the 3rd February 1935 the results of tests carried out with a view to ascertaining the influence of differential irrigation on the fibre properties and spinning quality were considered. It was decided that as this investigation had yielded interesting and useful results it should be continued and that the results so far available should be published. Accordingly, more samples of cotton grown with different amounts of irrigation were received from Sakrand, Ganganagar, Padegaon, Coimbatore and Lyallpur. Tests on samples received from the former three stations have already been completed, while tests on samples received from the latter two stations are in progress. As regards the publication of the results of the tests already completed, it was felt that the value of these bulletins would be greatly enhanced if they contained an account not only of the technological work done on these samples but also of the field behaviour and the history of the cottons. Accordingly, the agricultural officers who supplied these samples were requested to collaborate with the writer by sending a detailed account of the field behaviour of their samples. The bulletins on these investigations will be issued under joint authorship after the contributions of the cotton breeders have been received.

2. *Tests on Boss III and Sea Island cottons grown at Sakrand, Sind.*—During the last six seasons tests have been carried out at the Technological Laboratory on samples of long staple Egyptian and American cottons grown at Sakrand. Among these the two cottons which consistently gave the best results are Boss III and Sea Island. In view of the fact that Sind is especially suited for the cultivation of long staple cottons and also in view of the growing demand for such cottons by Indian mills, it was thought that if tests on a larger scale were made on these two cottons and their performance under similar conditions were compared with an Egyptian cotton, the results would be useful in showing the potentialities of these cottons. Accordingly, samples of Boss III and Sea Island cottons were obtained from the Chief Agricultural Officer in Sind and a sample of an Egyptian cotton, Giza-7, was obtained from the local market. Carded and combed yarns ranging from 60's to 80's were spun from these three cottons and tested for strength, evenness, neppiness, etc. The results of the tests are given in the Spinning Test Report No. 632, which is attached as appendix, for consideration if any further action should be taken in this matter.

3. *The effect of method of picking on the quality of Cambodia cotton.*—Two samples of Cambodia cotton grown in Salem were tested at the Laboratory during the period under review. One of these samples was picked according to the method ordinarily employed by the cultivators, while the other sample was picked according to an improved method recommended by the Department of Agriculture, Madras. The results of these tests showed that the sample picked according to the improved method gave uniformly better results in all respects. It contained a smaller percentage of immature hairs, yielded less total waste, registered fewer breakages in the ring frame and the yarns spun from it were definitely stronger, more even, and less neppy than those obtained from the other sample. In view of the complaints frequently heard regarding the amount of trash in some of the Indian cottons due to defective picking a technological leaflet describing the above results has been written and is being sent to the press.

B. Standard Cottons.

As in the past exhaustive tests were made on standard Indian cottons and the results obtained were compiled in a Technological Bulletin, which has been sent to the press. It may be mentioned that, following the recommendation of the Chief Agricultural Officer in Sind, two cottons from Sind were included for the first time in the list of standard cottons. One of these cottons has been named "Sind N.R." and represents the improved Sind-Bengals variety, W.N. 27, (*G. neglectum* var *Rosea*). The other has been called "Sind Sudhar" and represents the improved Sind-American variety, 289-F-1 (*G. hirsutum*, Linn). The area

under their cultivation is increasing rapidly. Both have been tested at the Laboratory during the past 5/6 seasons and their performance in the Laboratory and their behaviour in the field have been found to be very satisfactory. Furthermore, two further selections of C.P. Verum 262, named "V-434" and "Late Verum" have been included in the list of standard cottons as desired by the Director of Agriculture, Central Provinces. V-434 has been found to be specially suited for areas which possess highly variable climate, while Late Verum is found to be specially suited for areas in which the monsoon is likely to last till late in the season. The performance of these cottons as shown by the results of Laboratory tests, is in no way inferior to that of V-262, while their yield and field behaviour, especially under the conditions mentioned above, make them superior to, and more profitable for cultivation, than V-262. It is anticipated that the area under their cultivation will grow rapidly. As many of the standard cottons are now grown on a commercial scale, the results for those which were received fairly early in the season were published in the form of technological circulars. During the period under review such circulars were issued on P.A. 4-F, 1027 A.L.F., Jayawant and Cambodia Co. 2.

C. Trade Samples.

These samples are tested at the Laboratory in accordance with an arrangement entered into between the Indian Central Cotton Committee on one hand and the East India Cotton Association, Bombay, and the Bombay and Ahmedabad Millowners' Associations on the other. The results of the tests on these samples have so far been published in the form of technological circulars. However, it was felt that if the results of these tests were compiled in the form of a bulletin, it will constitute a handy reference book, containing detailed information regarding the waste losses, spinning performance, etc., of types which form the bulk of the Indian cotton crop. Before acting on this proposal various organisations like the East India Cotton Association, Bombay, the Millowners' Associations, Bombay and Ahmedabad, the Chambers of Commerce, and the leading mills were circularised to elicit their opinion on this proposal. They all welcomed the proposal and agreed that such a bulletin would serve a useful purpose. Accordingly, during the period under review, arrangements were made to issue a bulletin entitled "Technological Reports on Trade Varieties of Indian Cottons" describing the results of tests on these samples.

As in the past the Laboratory continued to receive samples from private mills which were tested on payment of fees laid down by the Committee. During the period under review 4 samples were subjected to spinning tests, 5 to yarn tests and 4 to fibre tests.

D. Technological Samples.

In addition to the testing of the agricultural and trade samples as mentioned above, the Laboratory has continued its work on technological problems. The progress made under this head during the period under review will now be described:—

1. *Storage of cotton in the open and in shed at Karachi.*—It will be remembered that the results obtained for this investigation were considered at the last meeting of the technological Research Sub-Committee. It was decided that a final report embodying these results should be sent to the Karachi Cotton Association to enable them to approach the Port Trust authorities for greater godown facilities. This was done and the reply received from the Karachi Cotton Association forms a separate item on the agenda of the Technological Research Sub-Committee.

2. *The effect of artificial watering on the spinning quality of cotton.*—At the last meeting of the Technological Research Sub-Committee the results obtained for the Amraoti cotton were considered. During the period under review the tests on the other cotton, namely, Broach (Palej) were completed. On an analysis of the results of this cotton it was found that it would be useful to perform one more series of tests on a further set of samples drawn from these four bales. Accordingly, another set of samples was drawn from these bales during the period under review and the tests on these samples are in progress.

3. *The effect of different degrees of compression on the spinning quality of cotton.*—The results obtained with Superfine Oomra were considered by the Technological Research Sub-Committee at its meeting held on 3rd February 1935. It was felt that, if the spinning quality of a cotton were to be affected by the degree of compression in a bale, the effect is more likely to be noticeable in a long than in a short staple cotton. It was decided that similar tests should be made on bales of long staple Indian cottons. Accordingly three bales each of Surat 1027 A.L.F.,

Jayawant, Cambodia and Punjab-American 289-F have been purchased. These were pressed to the same size, but weighed respectively 400, 300 and 200 lbs. Samples drawn from these bales are under test and a report containing the results will be submitted in due course.

4. *Limit spinning tests.*—The choice of suitable twists for various Indian cottons and the effect of twist on the production, strength and evenness of yarns are matters of great practical importance to the mills. Some time ago the Technological Laboratory undertook an investigation on the effect of twist on two cottons, namely, Cambodia and Mollisoni. This work has now been extended to two Indian cottons, Superfine Oomra and Punjab-American 4-F which have been spun into various counts with different twist multipliers ranging from $3\frac{1}{2}$ to $5\frac{1}{2}$. The spinning tests and yarn tests on these samples have now been completed and a bulletin describing the results obtained is being written up.

5. *Spinning tests on mixings of Indian cottons.*—This investigation forms a part of the programme of work approved recently by the Indian Central Cotton Committee. The object of this investigation is to find out the particular fibre properties which are responsible for the mixing quality of various Indian cottons. For this purpose, samples of Surat 1027 A.L.F., Khamgaon, Superfine Oomra and Punjab-American 4-F have so far been obtained and the mixtures made from them in various proportions have been spun into suitable counts. Simultaneously with this, an exhaustive examination of the fibre properties of these cottons is being carried out as will be described under the head "Research Laboratory." More samples of Indian cottons will be obtained and treated in the like manner. This investigation is in progress.

6. *Effect of storage of seed-cotton prior to ginning.*—The results obtained for Punjab-American 289-F, Punjab-American 4-F and Mollisoni were considered at the meeting of the Technological Research Sub-Committee held on 17th August 1935. It was decided that these experiments should be repeated on the Punjab cottons and extended to some other Indian cottons with the period of storage increased from 1 month to $\frac{3}{4}$ months. Accordingly, arrangements have been made to obtain samples of Wagad 8 and the Punjab cottons with a period of $\frac{3}{4}$ months intervening between the dates of picking and ginning. These samples will be tested when the samples of the new crop are received at the Laboratory.

II. RESEARCH LABORATORY.

Fibre Testing Section.—This section has been fully occupied with the testing of samples for fibre-properties which were sent to the Laboratory both for spinning tests and fibre tests. During the period under review the total number of samples on which fibre tests of all kinds were completed in this section amounted to 146.

Mr. Hari Rao, in addition to supervising the work of this section, concluded his investigation on the effect of twist on the strength and extension of single cotton fibres. He has made these tests on 5 cottons, namely, Cambodia Co. 1, Mollisoni, Verum 262, Banilla and Aligarh 19, and during the remaining part of the period under review has been engaged in analysing the results and writing up an account of this investigation which will be published in the form of a technological bulletin.

Physics Section.—Mr. R. S. Koshal continued with the analysis on the effect of distribution of rainfall and temperature on the fibre-properties and the spinning value of a cotton. In my last progress report I gave a short account of the scope of this investigation and the main results hitherto obtained by Mr. Koshal. These results have proved so interesting and in many respects are likely to be so useful to the cotton breeders that that attempts have been made to apply this analysis to all cottons for which the necessary data are available. This investigation has taken rather longer time than was originally anticipated, but it must be remembered that it covers numerous tests on standard Indian cottons and agricultural samples which have been made at the Laboratory in the last 11 seasons and that without such an analysis the full utility of these tests would not be realised. It is expected that this analysis will be completed in another two months' time, when an account of it will be written up for publication as a technological bulletin.

Mr. C. Nanjundayya continued his investigation on the properties of cotton fibre at the point of rupture of yarn. This investigation forms a part of the programme of work recently approved by the Indian Central Cotton Committee. For this purpose an apparatus had been devised for automatically recording stress and strain in a yarn from the time at which tension is applied to it to the time when rupture takes place. A microscope has also been adapted to enable the

worker to observe the variation in twist at different points of the yarn before it is broken. The properties examined which will be correlated when sufficient data are available are fibre-maturity, fibre-length, fibre-weight per inch, distribution of twist, breaking load and extension. This work is in progress.

Dr. K. R. Sen has undertaken the examination of the fibre-properties of cotton with a view to finding out which of these properties play an important role in the "mixing" quality of a cotton. This investigation also forms a part of the programme of work which has recently been approved by the Indian Central Cotton Committee. For this purpose several cottons have been obtained mixed in different proportions and spun into suitable counts, and their yarn characteristics are being determined. Simultaneously with this work their fibre-properties are being examined in great detail by Dr. Sen. It is proposed to extend this investigation to a number of other cottons so that it may be possible to draw conclusions of fairly wide applications, but as the results of spinning tests on mixtures may be useful to the trade it is proposed to publish these, in the form of technological circulars or leaflets, without waiting for the final analysis and correlation of all the results.

Chemistry Section.—Mr. D. L. Sen continued the work on differential absorption of dyes on a number of Indian cottons up to 20th September 1935 when he left on study leave to join the College of Technology, Manchester. Owing to the pressure of work on the testing staff of the Laboratory it has not been possible to continue this work after Mr. Sen's departure, but as soon as the pressure on the testing staff is relieved, it is hoped to continue this investigation with the help of one of the Junior Testers.

Dr. Thoria, who was appointed to a temporary post of Chemist in order to study the possibility of using short staple Indian cottons for the manufacture of artificial silk continued his investigation on the determination of the strength and the elasticity of films prepared from different short staple Indian cottons, cotton waste, rags, linters, etc. For the purpose of comparison similar tests were also made on films prepared from wood pulp such as is used for the manufacture of paper. A report on Dr. Thoria's work forms a separate item on the agenda of the Technological Research Sub-Committee.

Microscopy Section.—During the period under review Mr. Gulati continued his observation on the progressive disintegration of the cotton fibre due to bacterial infection and a paper describing the results was sent up for publication. Mr. Gulati has now undertaken an investigation on the effect of variety, environment, distribution of rainfall, differential irrigation, etc., on fibre maturity. This is another item of research approved by the Indian Central Cotton Committee. For this purpose suitable cottons which are likely to show the abovementioned effects have been selected and maturity tests are being made on them. It should also be mentioned here that during the period under review a device has been perfected at the Laboratory which enables maturity tests to be completed in a much shorter time. A short note giving a description of this device for the benefit of other workers has been sent for publication. Besides this work Mr. Gulati made tests for micro-organismal damage to stored Broach cotton and for mechanical injury to fibres drawn from bales pressed under different degrees of compression.

In view of the increasing demand for maturity tests from the cotton breeders, it has now been decided to transfer the routine maturity work to the Fibre-Testing Section. For this purpose Mr. Gulati has trained three of the Junior Testers attached to this section and the routine tests will now be performed by them.

III. MOISTURE TESTING SECTION.

During the period under review the total number of samples tested in this section was 13, out of which 3 were tested for the trade, 6 for the Appeal Committee of the East India Cotton Association and the remaining 4 in connection with one of the investigations in progress at the Laboratory. This number is small as compared with that tested in the corresponding period of last year. This is partly due to the departure of Mr. Sen on study leave to England and his occupation in the dye absorption work before his departure and partly to the fact that already sufficient data have been collected which now awaits to be written up in the form of a bulletin. The East India Cotton Association is desirous that more moisture tests should be made especially on long staple cottons. During the period under review it has not been possible to spare any assistants to carry out this work, but as soon as the pressure on the Laboratory is relieved to some extent this request of the East India Cotton Association will be complied with, if approved by the Committee.

IV. PUBLICATIONS.

It will be recalled that at the last meeting of the Technological Research Sub-Committee the writer presented as desired by the Committee a brochure on the work of the Laboratory between 1923 and 1935. This brochure met with the general approval of the Committee and it was decided to publish it after making a few additions which would enhance its usefulness. During the period under review these additions were made in this brochure and it has now been sent to the press for publication. The following technological bulletins and circulars were issued during the period under review :—

Bulletins.

- (1) Technological Bulletin, Series A, No. 28, entitled "Technological Reports on Standard Indian Cottons, 1935."
- (2) Technological Bulletin, Series A, No. 29, entitled "Technological Reports on Trade Varieties of Indian Cottons, 1935."

Circulars.

- (1) Technological Circulars Nos. 171 to 207 inclusive, detailed as under:—

T. C. No.	Description.	Date.
171	Spinning Test Report No. 591 on samples of Broach cotton, 1934-35	June 1935.
172	Spinning Test Report No. 592 on samples of Jagadia cotton, 1934-35	June 1935.
173	Spinning Test Report No. 593 on samples of Punjab-American cotton, 1934-35	June 1935.
174	Spinning Test Report No. 595 on samples of Ballhonga cotton, 1934-35	June 1935.
175	Spinning Test Report No. 596 on samples of Broach cotton, 1934-35	June 1935.
176	Spinning Test Report No. 597 on samples of Karunganni cotton, 1934-35	June 1935.
177	Spinning Test Report No. 598 on samples of Tiruppur Cambodia cotton, 1934-35	June 1935.
178	Spinning Test Report No. 599 on samples of Northern Cambodia cotton, 1934-35	June 1935.
179	Spinning Test Report No. 600 on samples of Farm Westerns cotton, 1934-35	June 1935.
180	Spinning Test Report No. 601 on samples of Westerns cotton, 1934-35	June 1935.
181	Spinning Test Report No. 602 on samples of Miraj cotton, 1934-35	June 1935.
182	Spinning Test Report No. 603 on samples of Nandyal cotton, 1934-35	June 1935.
183	Spinning Test Report No. 604 on samples of Surat cotton, 1934-35	July 1935.
184	Spinning Test Report No. 606 on samples of Tiruppur Cambodia cotton, 1934-35	July 1935.
185	Spinning Test Report No. 607 on samples of African Busoga cotton, 1934-35	July 1935.
186	Spinning Test Report No. 608 on samples of Kampala cotton, 1934-35	July 1935.
187	Spinning Test Report No. 609 on samples of Hubli Upland cotton, 1934-35	July 1935.
188	Technological Report on Punjab-American 4-F, 1934-35	July 1935.
189	Technological Report on Surat 1027 A.L.F., 1934-35	July 1935.
190	Spinning Test Report No. 612 on samples of Kalagin cotton, 1934-35	July 1935.
191	Spinning Test Report No. 613 on samples of Farm Westerns cotton, 1934-35	July 1935.

T. C. No.	Description.	Date.
192	Technological Report on Jayawant (Kumpta), 1934-35	August 1935.
193	Technological Report on Cambodia Co. 2 (Cambodia 440), 1934-35	August 1935.
194	Spinning Test Report No. 620 on samples of Navsari cotton, 1934-35	August 1935.
195	Spinning Test Report No. 621 on samples of Upland cotton, 1934-35	August 1935.
196	Spinning Test Report No. 624 on samples of Dholleras cotton, 1934-35	September 1935.
197	Spinning Test Report No. 626 on samples of Westerns cotton, 1934-35	September 1935.
198	Spinning Test Report No. 627 on samples of Surat cottons, 1934-35	September 1935.
199	Spinning Test Report No. 628 on samples of Tinnevelley cotton, 1934-35	September 1935.
200	Spinning Test Report No. 630 on samples of Cambodia cotton, 1934-35	September 1935.
201	Spinning Test Report No. 631 on samples of Karunganni cotton, 1934-35	September 1935.
202	Spinning Test Report No. 633 on samples of Bijapur cottons, 1934-35	September 1935.
203	Spinning Test Report No. 634 on samples of Bagalkote cottons, 1934-35	September 1935.
204	Spinning Test Report No. 635 on samples of A. R. Jinja cotton, 1934-35	September 1935.
205	Spinning Test Report No. 637 on samples of A. R. Busoga cotton, 1934-35	September 1935.
206	Spinning Test Report No. 638 on samples of A. R. Kampala cotton, 1934-35	September 1935.
207	Spinning Test Report No. 640 on samples of Kumpta cotton, 1934-35	September 1935.

V. GENERAL.

Equipment.—The following machines and apparatus were added to the Laboratory during the period under review :—

- (1) Leitz Polarising Attachment for use with Ultropak Microscope.
- (2) Bosc and Lomb's Euscope with viewing camera attachment with adjustable microscope lamp.
- (3) Suter Thread Carrier.
- (4) Louis Schopper's Strength Tester with graphic recorder for work on the manufacture of artificial silk from short staple Indian cottons.
- (5) One Electric oven and an Evaporating Bath for the above work.
- (6) Leeds and Northrup Galvanometer.

Staff.—Mr. D. L. Sen, a Senior Research Assistant (Chemist), who was granted one year's study leave left on the 20th September 1935 to join the College of Technology, Manchester.

Mr. A. B. Khan, Junior Tester, resigned his post on 3rd September 1935 to prosecute with further studies.

Mr. S. Rajaraman, Technological Assistant, Lyallpur, completed his training at the Laboratory on the 11th September 1935 and proceeded to Lyallpur to relieve Mr. K. G. Deo who reverted to his substantive post of Junior Tester at the Laboratory.

ACKNOWLEDGMENTS.

I have pleasure in acknowledging the loyal co-operation of the staff throughout the period under review which made the work described in this report possible.

(Sd.) N. AHMAD,

Director,

Technological Laboratory.

Dated the 23rd December 1935.

APPENDIX VI.

SUBJECT 15.—*Technological Research—Report of the Technological Research Sub-Committee.***Secretary's Note.**

The Technological Research Sub-Committee met at 10-30 a.m. on Saturday, the 11th January 1936.

The Progress Report of the Director for the five months, June to October 1935, was considered. The total number of samples received for tests during the period was only 165 as compared with 219 during the corresponding period of the previous year. 189 samples divided into 214 lots were spun into 724 counts during this period as against 224 samples divided into 247 lots spun into 857 counts during the corresponding period of the previous year. 57 spinning test reports, 6 fibre-test reports and 4 yarn test reports were issued during the period under report, the comparable figures for the previous year being 57, 9 and 4 respectively.

In accordance with a previous recommendation of the Sub-Committee, tests have been carried out on Sakrand, Ganganagar and Padegaon samples and tests are in progress on Coimbatore and Lyallpur samples of cotton with a view to ascertaining the influence of differential irrigation on the fibre-properties and spinning quality of cotton. When the tests are completed the results will be published.

As regards the tests carried out on Boss III, Sea Island and Giza-7 cottons, the Sub-Committee recommends that these tests should be repeated on samples drawn from ordinary commercial crops, and that the results obtained from these tests should not be published till the results of the mill tests on the same samples are available.

The Chief Agricultural Officer in Sind should be informed of the desirability of devoting greater attention to picking and ginning of the long staple cottons grown in Sind.

The Director's proposal to transfer the routine maturity work from the Microscopy Section to the Fibre-testing Section may be approved.

The Sub-Committee understands from the Director that moisture tests on cotton, as requested by the East India Cotton Association, will be taken up immediately.

The Sub-Committee approved the Revised Budget Estimates for 1935-36, and provisionally sanctioned the budget proposals for 1936-37. The Sub-Committee further recommended that a Special Sub-Committee consisting of Sir Purshotamdas Thakurdas, Messrs. Kasturbhai Lalbhai, S. D. Saklatvala, Sakarlal Balabhai and Dr. W. Burns be appointed to go into the whole question of the expenditure of the Laboratory to make recommendations regarding possible economies in the future. Dr. Nazir Ahmad will act as the Secretary to this Sub-Committee. The report of this Special Sub-Committee should be placed before the next meeting of the Technological Research Sub-Committee.

The Sub-Committee recorded the letter received from the Secretary, Karachi Cotton Association, intimating that a large number of covered sheds had been erected in the Thole Yard and that the major portion of the cotton now coming into Karachi is being stored in covered sheds. In the circumstances the Association thinks that no useful purpose would be served either by publishing the report on the deterioration of cotton stored in open plinths at Karachi or by sending it to the Karachi Port Trust. The Sub-Committee, however, recommends that a non-technical summary of the results of the tests carried out should be published for the benefit of the public.

The Sub-Committee considered (1) a note furnished by Mr. R. S. Finlow on the possibility of the manufacture of artificial silk in India, (2) a letter from the Vice-Chancellor, Bombay University, enquiring if the Committee would like Dr. Venkatraman to utilize a part of his European tour to study the production of staple fibre and (3) the report submitted by the Director, Technological Laboratory, on the work done in the Technological Laboratory and the Laboratory of the Research Department of the Bleachers' Association, Manchester. The Sub-Committee recommends that the term of appointment of Dr. Thoria be extended for a period of six months at Rs. 375 per month, and that the cellulose content of cheap short staple cottons and high-yielding strains including those that might have been rejected by Agricultural Department for weakness of fibre, etc., should

be found out. The Chemist should also try all the three methods on a selected number of cottons. The publication of the results so far obtained should be withheld till the investigation is completed. The proposed small spinning plant is unnecessary.

As regards the proposal of the Vice-Chancellor, Bombay University, the Sub-Committee recommends that the offer be accepted with thanks. Should it be found necessary that any monetary help is required by the University in this matter, it should be referred to the Standing Finance Sub-Committee for decision. The Secretary should consult Mr. Fred Stones regarding the facilities for Dr. Venkatraman to visit large manufacturing establishments in Germany and England. If no satisfactory arrangements could be made by the Secretary, the matter should be referred to Sir Bryce Burt, who will write to the Indian Government Trade Commissioners and to the High Commissioner for India.

In the meanwhile, Mr. Brodie has promised to furnish information regarding the relative costs and the suitability of the various processes of manufacturing artificial silk and staple fibre. This might be awaited.

In accordance with the recommendation of the Sub-Committee at its February 1935 meeting, the Director held in December 1935 a Conference between the Technological Assistants and the senior research staff of the Technological Laboratory. The report submitted by the Director on the work done at the Conference was recorded. It was decided that any proposals regarding the purchase of new apparatus by the Technological Assistants should first be approved by the Director, Technological Laboratory.

The Sub-Committee considered the applications of two Junior Testers for higher pay. The Sub-Committee recommends that these applications be referred to the Special Sub-Committee for consideration.

P. H. RAMA REDDI.

APPENDIX VII.

SUBJECT 17.—*Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton.*

Secretary's Note.

The Special Sub-Committee appointed to consider the question of a wider market for Indian cotton met at 3 p.m. on Saturday, the 11th January 1936.

The Sub-Committee understands that though, in pursuance of a previous decision of the Committee, articles had been sent to the *Times* and the *Manchester Guardian Commercial* for publication, the former definitely refused to publish such articles. The latter may publish some articles, provided they are well-written and officially sent to the Editor by the Secretary. The Chief Agricultural Officer in Sind, and others wishing to contribute articles may therefore send them to the Secretary to be transmitted to the Editor of the *Manchester Guardian Commercial*. The Director, Technological Laboratory, will continue to send, as before, articles for publication in the Textile Weeklies, and other Magazines which show an interest in these articles.

The Sub-Committee notes that, in accordance with its wish, the Lancashire-Indian Cotton Committee has asked Dr. Pickard, Director of the Shirley Institute, to get in touch with the Director at Torridon and to arrange for definite trials with Indian short staple cottons in the woollen industry at Torridon. As regards the small samples of Indian short staple cottons to be supplied to *bona fide* consumers in Europe, who ask for them, the Sub-Committee recommends that the Director should omit U.P. and Mathia from his list, and supply only Comillas, Sind-deshi, Rajputana-deshi, and Burmas.

At its last meeting the Sub-Committee suggested that an authoritative "Guide to Indian Cottons" might be issued as a joint publication of the Indian Central Cotton Committee and the East India Cotton Association as the latter was known to have already prepared some material which could form part of the proposed publication. The Sub-Committee examined the said material, and recommends that a Sub-Committee consisting of the Vice-President (Chairman), Messrs. J. H. Ritchie, R. G. Saraiya, S. D. Saklatvala, D. McCallum and Dr. Ahmad be appointed to meet the representatives of the East India Cotton Association and prepare the proposed publication.

In the meanwhile the Secretary might circulate the said material to Directors of Agriculture and the Ahmedabad and Bombay Millowners' Associations and the Upper India Chamber of Commerce for criticism.

The Sub-Committee recorded a note put in by Mr. H. C. Short on the Shirley Institute Exhibition held in September 1935. The Sub-Committee noted with satisfaction the excellent work done by the Lancashire-Indian Cotton Committee to popularise Indian cottons in the United Kingdom and passed the following resolution :—

“ This Committee desires to record its appreciation of the excellent work of the Lancashire-Indian Cotton Committee. The large increase in the takings of Indian cotton in the last three years is a striking testimony to the efficiency of their organisation and propaganda.”

The Sub-Committee also considered a suggestion from Mr. R. G. Saraiya that periodical reviews of the state of foreign trade in Indian cotton might be prepared by the Secretary and submitted to the Sub-Committee for consideration at its half-yearly meetings. The Sub-Committee, however, thinks that this is only duplication of work, as the same work is undertaken by the Commercial Intelligence Department of the Government of India. So far as the loss of trade with Germany is concerned, the Secretary might write to Sir Bryce Burt to bring the matter to the notice of Government.

Fall in the exports of Indian cotton to China (Subject 43).—The Sub-Committee recommends that the letter from the East India Cotton Association be forwarded to the Government of India in the Commerce Department for information and such action as is deemed necessary.

P. H. RAMA REDDI.

APPENDIX VIII.

SUBJECT 19.—*Report of the Agricultural Research Sub-Committee.*

The Agricultural Research Sub-Committee met at 11 a.m. on the 9th January 1936 and divided itself into three Sectional Sub-Committees as shown below for detailed examination and report on the subjects noted against each.

SECTIONAL SUB-COMMITTEE I.

Personnel :—

The President (Sir Bryce Burt),
Dr. F. J. F. Shaw,
Mr. W. J. Jenkins,
Prof. R. H. Dastur,
Mr. H. R. Stewart,
Mr. J. B. Hutchinson,
Dr. V. K. Badami, and
Rao Bahadur G. R. Kothare.

Subjects :—

Madras Fodder Cholam Scheme—Proposed further extension of.
Proposed publication of paper entitled “ A note on the hairiness of cotton.”
Punjab Cotton Failure Research Scheme—Revised proposals for—

- (a) Collection of Herbaceum cottons in Iran.
- (b) Survey of Kathiawar cottons.
- (c) Arrangements to be made for growing the material obtained from the above surveys.

Sir Albert Howard's criticism of the Committee's work and policy.

SECTIONAL SUB-COMMITTEE II.

Personnel :—

Mr. R. G. Allan (in the Chair),
Mr. J. H. Ritchie,
Mr. Mohammad Afzal,
Mr. J. C. McDougall,
Mr. Nizam-ud Din Hyder, and
Rao Bahadur M. G. Deshpande.

Subjects :—

Bikaner Gang Canal Scheme—Extension of.
 Proposed publication of paper entitled “ A note on the water conducting capacity of the wood of cotton plant at Lyallpur with special reference to irrigation.”
 Khandesh (Banilla) Seed Distribution Scheme—Proposed extension of.
 Hyderabad Pink and Spotted Boll-worm Scheme—Proposed extension of.

SECTIONAL SUB-COMMITTEE III.

Personnel :—

Dr. W. Burns (in the Chair),
 Rao Bahadur D. Ananda Rao,
 Mr. P. B. Richards,
 Rai Saheb Kalidas Sawhney, and
 Mr. H. H. Pandya.

Subjects :

Punjab Cotton White Fly Research Scheme—Proposed extension of.
 Punjab Pink and Spotted Boll-worm Scheme—Reply of the Director of Agriculture, Punjab, on the observations made by the Committee at its last meeting.

Proposed publication of paper entitled “ The Seasonal activities of *B. gossypiperda*, the White Fly of cotton in the Punjab.”

Madras Pempheres and Physiological Scheme—Proposed all-India tour of Parasitologist.

The main Sub-Committee again met at 11 a.m. on the 10th January 1936 and considered the subjects on the agenda in the light of the reports which the Sectional Sub-Committees made.

A. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON
NEW AGRICULTURAL RESEARCH SCHEMES.

At its last meeting the Committee noted in connection with the examination of the possibility of growing medium or long staple cotton in the present short-staple areas of India that no work had hitherto been done with a view to finding out a medium or long staple cotton suitable for the large Dholleras tract. The Committee, therefore, decided, on the recommendation of the Special Sub-Committee to consider the question of a wider market for Indian cotton, that Mr. Hutchinson should be asked to put up proposals for making a comparative study of Indian and Iranian herbaceous cottons. In pursuance of this decision Mr. Hutchinson has now submitted the following proposals :—

(1) *Collection of Herbaceous cottons in Iran.*—It is proposed to send a member of the staff of the Indore Institute to Iran to collect samples of *kapas* from Iran. The Iranian Government has agreed to give facilities for an Assistant from India to tour in Iran and make a collection of cottons. The cost of this tour is estimated at about Rs. 4,000 and the Sub-Committee recommends a grant of not exceeding Rs. 4,000 for this purpose. The whole of this money would be expended on travelling expenses and contingencies only as the Indore Institute of Plant Industry will meet the salary of the Assistant who tours.

(2) *Survey of Kathiawar Cottons.*—A survey of Kathiawar cottons has been undertaken by the Institute. It is believed that both in the case of Mathio and Wagad cottons crossing with Iranian cottons offered an avenue of improvement.

(3) *Arrangements to be made for growing the material obtained from the above surveys.*—The Sub-Committee considers that the breeding work on the Kathiawar cottons must be carried out in Kathiawar and that possibly the Bombay and Baroda Departments of Agriculture could arrange facilities at Viramgam and Amreli. Mr. Hutchinson might ascertain whether one or both these stations are required for the projected work.

B. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON
EXTENSIONS OF OLD SCHEMES.

(1) *Bikaner Gang Canal Scheme (No. 21).*—At its last meeting the Sub-Committee considered the proposals submitted by Mr. Hutchinson for the extension of this scheme for a period of five years at a total estimated cost of Rs. 27,120, and it was agreed that if Mr. Hutchinson wanted a sub-station in the Bengals area for

his work in genetics he might be provided with one either at Raya Farm or Delhi or Ganganagar whichever was the least expensive. In view, however, of the later memorandum submitted by Mr. Hutchinson the Sub-Committee is of the opinion that :—

- (a) definite steps to improve the quality of Bengals were necessary,
- (b) Bengals could be effectively grown at Ganganagar,
- (c) the objects intended could be achieved effectively at much lower cost at this centre than if a fresh station was opened in another tract, as apart from the new costs involved the buildings and capital sunk by the Indian Central Cotton Committee would, if this station was given up, revert to the State and the general assistance at present freely rendered by Bikaner would be withdrawn, and
- (d) the estimates were definitely moderate.

For the above reasons the Sub-Committee recommends that the scheme be accepted.

It is also suggested that samples of all materials of any value resulting from the present survey in Rohilkhand and Bundelkhand should be supplied to this centre, and Mr. Hutchinson should be invited to propose a new name for the scheme.

(2) *Punjab Cotton Failure Scheme (No. 22).*—Prof. Dastur in the course of his work in this scheme has discovered serious defects in the metabolism of *Desi* and American cotton plants in which the characteristic “crop failure” conditions are seen. The further presence of a micro-organism in the seed, and in the roots of such plants has led him to believe that the defective metabolism is probably caused by the infection of this organism. The Sub-Committee is of the opinion that before a research on the scale suggested in the proposals is taken up, another year's work should be undertaken to establish that the causal organism is the bacteria observed in the diseased plants. This work should be on the lines recommended in Dr. Shaw's note. The Sub-Committee also recommends :—

- (a) that Dr. Verma be kept on for the full term of the scheme as he has been trained specially at the expense of the Committee for this type of work,
- (b) that his pay should be Rs. 300 per month from the date on which he returned to his duties in September 1935 and increments be allowed to him as usual under the rules, and
- (c) that he should not be subject to the 15 per cent. cut as he was already in his present grade when the cut was instituted.

The Sub-Committee recommends that the Director of Agriculture, Punjab, be asked to depute an experienced clerk in the grade of Rs. 40—2—90 to carry out the clerical work of the scheme. The small increase in cost occasioned by this appointment will depend on the position of the man selected in the scale of pay. The Sub-Committee agrees that one peon on the usual Punjab scale of pay should be sanctioned. Consideration of the proposal for the appointment of additional Assistants in other centres is postponed pending the results of the next year's work but the Indian Central Cotton Committee should invite other cotton botanists to co-operate with Mr. Dastur so far as their resources permit.

It is also recommended that the Assistant in the Punjab Agricultural Department, who, as has been proposed, will be asked to help in the bacteriological work in addition to his own duties, be given a personal allowance of Rs. 50 per mensem. It might be made clear that this allowance is granted only because it is a work, additional to his ordinary duties and involving overtime work. This kind of allowance is not admissible to officers in charge of the Committee's schemes.

Punjab Cotton White Fly Research Scheme (No. 23).—This scheme started work in April 1931. Out of the total grant of Rs. 56,087 for two years a saving of Rs. 8,560 is now anticipated.

The Sub-Committee recommends the extension of this scheme as applied for by the Director of Agriculture, Punjab. The latter stated that the final report would be submitted at the end of that period and no further extension would be required.

Madras Fodder Cholam Scheme (No. 35).—This scheme has been in operation since 1931. The total cost of the scheme sanctioned by the Committee up to the 14th June 1936 is Rs. 17,700.

The Sub-Committee recommends that the scheme be extended for a year as a year was lost last year owing to the failure of the monsoon. The Sub-Committee recommends a grant of Rs. 4,210 only as the leave and pension contributions have to be waived by the Local Government.

Hyderabad Pink and Spotted Boll-worm Scheme (No. 40).—The sanctioned period of this scheme expires on 31st May 1936. As the proposals for its extension were received too late to be considered at this meeting of the Sub-Committee it recommends that pending the examination of these proposals at the next meeting, an *interim* extension for 4 months may be granted to this scheme at a proportional cost.

Khandesh (Banilla) Seed Distribution Scheme (No. 32).—The Sub-Committee after a lengthy discussion decided to recommend that this scheme be continued for one year only so as to enable the Director of Agriculture, Bombay Presidency, to put the position before this Government and to enable him to make effective arrangements to carry on the work of Stages III, IV and V. The Sub-Committee felt that in an extension of this kind the principle laid down earlier, that local Governments should undertake a fair proportion of the cost of the extension, should be adhered to. The Sub-Committee is of the opinion that a contribution covering Stages I and II might be regarded as a fair demand on the Indian Central Cotton Committee; but that this should only be forthcoming if the Local Government concerned would undertake the cost of the remaining stages of expansion.

Hyderabad Seed Distribution and Extension Scheme (No. 41).—The proposals for the extension of this scheme, which is to terminate on the 29th February 1936 will be considered at the next meeting of the Sub-Committee as they were received too late to be considered at this meeting. The Sub-Committee therefore recommends that this scheme be granted an *interim* extension for six months, at a cost proportional to the current year's estimate.

C. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON RESEARCH STUDENTS.

The Sub-Committee considered and recorded the progress reports on Messrs. Sant Singh Verma, C. B. Patel and Nazir Ahmad for the year 1934-35 forwarded by the High Commissioner for India, as well as a report submitted by Mr. Patel on the work done by him at the University of California from June 1935 to November 1935.

Foreign Scholarship and Training Grant.—The Sub-Committee recommends the application of Mr. Kidar Nath Trehan for a foreign training grant of Rs. 150 per mensem for a period of two years. The Committee might also bear his tuition fees and provide him with a second class P. & O. passage to and fro. These grants are subject to the condition that he proceeds to Rothamstead for the training and agrees to abide by the two conditions stated in paragraph 2 of the Director of Agriculture's letter of the 6th December 1935.

Mr. P. Abraham's request for training grant also may be granted. The total grant required is only Rs. 120.

GENERAL.

Punjab Pink and Spotted Boll-worm Scheme—Reply of the Director of Agriculture, Punjab, on the observations made by the Committee at its last meeting (No. 20).—The Sub-Committee recommends that the explanation of the Director of Agriculture, Punjab, be accepted as regards the reasons for not carrying out on a large scale practical control measures in the current season. Any proposals by him for the future can be dealt with when they are presented.

Publication of Papers :—

- (1) "The Seasonal activities of *B. gossypiperda*, the White Fly of cotton in the Punjab," by M. Afzal Hussain et al.
- (2) "A Note on the hairiness of cotton" by Mohammad Afzal.
- (3) "A Note on the water conducting capacity of the wood of cotton plant at Lyallpur with special reference to irrigation" by Mohammad Afzal.

The Sub-Committee considers that these papers should first be offered to the Indian Journal of Agricultural Science and that this should be the normal procedure in the future. Scientific papers describing "work financed by the Indian Central Cotton Committee" should be offered to the Indian Journal of Agricultural Science without waiting for a meeting of the Sub-Committee but

should be forwarded to the Imperial Council of Agricultural Research through the Secretary, Indian Central Cotton Committee. A list of such papers should be reported to the Indian Central Cotton Committee at each meeting.

Madras Pempheres and Physiological Scheme—Proposed all-India tour of Parasitologist.—The Sub-Committee understands that likely parasites of Pempheres are not known to exist outside India. The Sub-Committee is therefore of the opinion that after a thorough survey has been made of the distribution of Pempheres in the Madras Presidency with such information as may be gained concerning its parasites and predators it would be desirable for the Parasitologist to examine outside Madras *such areas in India or Burma as are likely to be of use.*—This tour should be undertaken in 1936-37. The programme prepared by the Director of Agriculture, Madras, in consultation with the Parasitologist should first be circulated to Dr. W. Burns and Messrs. P. B. Richards, J. B. Hutchinson and Mohammad Afzal for approval, as a general tour all round India without reference to the occurrence of Pempheres or its parasites is not desirable. Rs. 1,600 for travelling allowance would remain as part of the budget of this scheme.

The Sub-Committee recommends that the Directors of Agriculture may be authorised to sanction the tours of specialists outside their provinces, provided there is budget provision. The Standing Finance Sub-Committee need be approached only in case a re-appropriation is necessary.

Appointment of a Sub-Committee to work out details for holding a conference of scientific workers on cotton.—A Sub-Committee consisting of the following members was appointed for this purpose :—

The President,
Mr. Mohammad Afzal,
Mr. J. B. Hutchinson,
Dr. W. Burns,
Dr. F. J. F. Shaw,
Mr. P. B. Richards,
Rai Saheb Kalidas Sawhney,
Mr. W. J. Jenkins,
Dr. Nazir Ahmad, and
The Secretary.

Sir Albert Howard's criticism of the Committee's work and policy (No. 42).—The Sub-Committee recommends that the draft of the summary report on the discussion on this subject be approved. After approval it may be sent to Sir Albert Howard and the Press.

Bengal Comilla Cotton Improvement Scheme.—A note on the work of this scheme submitted by Mr. Hutchinson was considered by the Sub-Committee. As it appears that the Bengal Agricultural Department has misunderstood the object of the scheme, the Secretary might write and explain to the Director of Agriculture, Bengal, the Committee's object in financing this scheme. At the same time Mr. Hutchinson also will write to the Director of Agriculture regarding the suitable method to be used for comparative yield tests on steep hills.

P. H. RAMA REDDI.

Extension of the Gang Canal (Bikaner) Scheme of cotton investigation.—The original scheme was sanctioned by the Committee in July 1930, when a Capital grant of Rs. 14,500 and a Recurring grant of Rs. 7,640 annually, for five years were made to His Highness's Government. The Capital expenditure has been Rs. 8,585 on buildings (Laboratory, office, etc.), and Rs. 3,735 on a cotton gin, engine, implements and laboratory equipment. Current expenditure has averaged Rs. 4,785 a year. Taking past actuals with the current year's Budget Estimate the total savings will be about Rs. 15,450 at the end of the Scheme.

The scheme actually started on January 1st, 1931, and terminates on December 31st, 1935.

The attached résumé* describes the progress made in its first four crop-years the cotton crop on which the fifth year's work is based is in the ground and should be harvested by the close of the year.

Briefly, the results from the scheme to date are that good working solutions have been found for the problems of the *variety* and its *distribution*, the *date of sowings*, and the frequency and distribution of *irrigation* to give profitable production with maximum crop area and avoidance of soil salinity. Already those of *rotation* and manuring are well on the way and when the 1935 data are available it should be possible to make some specific recommendations on these subjects.

With regard to the variety question there is no doubt that under present cultivation practice a hardy, high-yielding cotton of the Cawnpore 520 or Mollisoni type pays the grower better than a long-staple Indo-American cotton.

If, however, as seems likely, the steady tendency of trade demand for longer staple cottons is sustained and increased it is the growers of the Bengals class who will suffer first and most from a weak market and the improvement of variety for those growers is a pressing problem which it is now proposed should be attacked under an extension of the Gang Canal Scheme. The area of such cottons in Rajputana and the Southern Punjab States is about half-a-million acres and Bengals form about one-fifth of India's total production.

An improved variety to replace this very large block of Bengals of low spinning quality in N.W. India obviously cannot be developed by the Institute of Plant Industry at Indore but Ganganagar which already forms part of that block is admirably suited for the purpose in its climate and soil and in the existence of an experimental farm with laboratory and other accommodation built and equipped at the Committee's expense, under the executive control of a State Agricultural Officer who is an old Cotton Committee Scholar and of the excellence of whose work the Committee is already aware. The arrangement under the existing scheme whereby the administration is in the hands of the Bikaner Government and the scientific control is entrusted to the Institute of Plant Industry as worked smoothly and efficiently.

A programme for the proposed extension of the scheme should include three lines of attack on the Bengals improvement problem for Rajputana and the Southern Punjab States region in particular.

- (i) Selection in indigenous cottons of the Bengals tracts. Recent preliminary work in other parts of Rajputana has clearly shown there is a good deal of scope here though a cotton to spin "at least 25 counts" could perhaps hardly be expected.
- (ii) Amelioration of the plant's environment—the physical condition of the soil, its moisture supply, manuring, rotation, fallows and windbreaks to make a safer Punjab-American crop possible, or at any rate, so to improve the yield and quality of *desi* types. (This work should be based—as it has been—upon laboratory, pot-culture and lysimeter work at Indore).
- (iii) Exploitation of the quality genes known to exist in *G. arboreum* v. *neglecta* from Assam and W. Burma by crossing with Cwn. 520 and Mollisoni. (Afzal at Lyallpur has already shown the value of Chinese cottons as parents).

Items (i) and (ii) are safe and obvious but item (iii) is a task of far greater magnitude and difficulty. If the attack is to be sufficiently comprehensive to ensure adequate exploitation of the material now available a large range of crosses will have to be grown. This will involve the elaboration of means of testing the relative potentialities of these crosses in an early stage before the mass of material becomes unmanageable. Such methods have indeed already been outlined in discussions and correspondence between Mr. J. B. Hutchinson (Geneticist and Botanist at the Institute) and Prof. Fisher, and it is expected that they will make possible such preliminary judgments in the early stages. Mr. Hutchinson says: "It is my opinion that to make such a test upon a number of crosses with fine quality cottons of the species *G. arboreum*, followed by a study of its accuracy by carrying out breeding experiments on those crosses predicted as most suitable would form a valuable contribution to the solution of the problem of improving Bengals cotton and would at the same time decide the suitability of the new methods for general plant breeding technique."

* Not printed.

It will probably require at least five years for tangible results to appear from the third line of attack which in some respects is likely to lead to the greatest advance in cotton improvement. Any extension of the present Gang Canal Scheme on the lines proposed should therefore be sanctioned for five years and the estimated yearly costs for that period are as follows :—

Year.	Rs.
1936	5,142
1937	5,233
1938	5,324
1939	5,415
1940	6,006

Copy of letter No. 3397/1/5, dated the 13th August 1935, from the Director, Institute of Plant Industry, Indore, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT :—Bikaner (Gang-Canal) Scheme.

In continuation of my letter No. 9528/1/5, dated July 28th, 1935, I have the honour to inform you that as the member of your Committee representing the States in Central India and Rajputana, I am now authorized by telegram by the Government of His Highness the Maharaja of Bikaner to say that they are agreeable to provide facilities on the State Farm at Sriganganagar for the extension of the present cotton investigation Scheme for a further five years after its expiry on December 31st, 1935. To this end I am further authorised to make a request on their behalf to the Indian Central Cotton Committee for a grant totalling Rs. 27,120, spread over the five-year period, 1st January 1936 to 31st December 1940, towards the cost of such extension on the lines laid down in the Memorandum enclosed with my letter under reference, (which has been considered by the Bikaner Government) and under the same conditions as attach to the current scheme.

A copy of the Budget Estimates covering the proposed period of extension is enclosed. These have also been under consideration by the Bikaner Government but their comments, if any, on the details of the Estimates will doubtless be sent by post.

Proposed Budget Estimates for extension of Bikaner (Gang Canal) Scheme for five years, from 1936 to 1940.

	1936		1937		1938		1939		1940		Grand Total.
(A) Establishment	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Pay of Cotton Assistant at Rs. 120-5-140	1,440	..	1,500	..	1,560	..	1,620	..	1,680	..	..
2. Pay of Fieldman at Rs. 32 p.m. from 1-1-36 and at Rs. 34 p.m. from 5-10-36 (Grade Rs. 30 2-50)	390	414	396	..	438	..	462	..	486	..	..
3. Junior Clerk at Rs. 33 p.m. ..	396	396	..	..	396	..	396	..	396	..	..
4. Laboratory Assistant at Rs. 25 p.m.	300	300	300	..	360	..	300	..	300	..	..
5. Provident Fund contribution ..	211	218	218	2,828	225	2,919	232	3,010	239	..	..
6. Provision for pay in lieu of leave not taken before December 31st 1940	..	2,737	..	..	..	..	..	..	500	3,601	15,095
(B) Contingencies	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	..
7. Labour	..	..	..	..	..	..	..	..	..	..	..
8. Appliances and materials for cotton selection and plant breeding	430	430	430	..	430	..	430	..	430	..	..
9. Stationery	50	50	50	..	50	..	50	..	50	..	..
10. Upkeep of machinery	50	50	50	..	50	..	50	..	50	..	..
11. Apparatus and Chemicals ..	70	70	70	..	70	..	70	..	70	..	..
12. Repairs to Laboratory Building	130	130	130	..	130	..	130	..	130	..	..
(c) Travelling expenses ..	1,730	1,730	1,730	..	1,730	..	1,730	..	1,730	..	8,650
(d) Audit fees	250	250	250	..	250	..	250	..	250	..	1,250
(e) Miscellaneous expenses ..	225	225	225	..	225	..	225	..	225	..	1,125
(e) Miscellaneous expenses ..	200	200	200	..	200	..	200	..	200	..	1,000
Total .. Rs.	5,142	5,233	..	5,324	..	5,415	..	6,006	..	27,120	..

MEMORANDUM.

Proposed extension of the Bikaner (Gang Canal) Scheme of Cotton Investigation.

1. I have now read and considered the papers concerning the proposed continuation of the Ganganagar Scheme.

2. The Indian Central Cotton Committee appear to have misunderstood the proposals on several points. In the first place, I am not asking for a sub-station in the Bengals tract. I have one, namely Ganganagar, and I put up to you the suggestion that it might profitably be continued. I am still of that opinion. Whether or not it would be profitable to start an entirely new scheme at another centre is a very different matter. I am quite certain it would be more expensive, so much so that I consider it would be a waste of time to elaborate alternative schemes unless the Committee are prepared to spend double the amount asked for for Ganganagar. As I understand the papers before me that rules out any alternative place.

3. I rather gather that the Committee thinks that I am anxious to expand my work in the Bengals tract. I am not, it is immaterial to me whether my work is concentrated at Indore or to some extent distributed. Presumably the members are aware that before suggesting a renewal you enquired of the Secretary whether or not the Committee would wish it. In the absence of any opinion on the part of the Secretary, one naturally supposed the Committee would not wish their interest in the buildings at Ganganagar to lapse without considering proposals for their utilization.

4. With regard to the suitability of Ganganagar for the purpose, since the most successful variety in the Gang Canal Colony at present was bred at Cawnpore, I fail to see why a cotton should not be bred at Ganganagar suitable to U.P. Bengals tracts. Apart from that, what I have proposed is a research scheme, the products of which should properly become the raw material for local breeding schemes, and would not necessarily be suitable for immediate distribution.

5. Finally, may I draw attention to the urgency of this matter? If the scheme does not proceed at Ganganagar, it will have to be recast, and there is little or no hope of doing this and arranging for its prosecution elsewhere in time for next season. The material and data already collected will be wasted, as I have no other suitable locality in which to grow them. I returned to India in the expectation of visiting Ganganagar within a month in order to arrange future work. Unless an early decision is made the completion of the current season's work in accordance with the scheme will be impossible.

(Sd.) J. B. HUTCHINSON,
Geneticist and Botanist.

Dated the 10th October 1935.

*Revised Proposals for the Punjab Cotton Physiological Research Scheme
(Cotton Failure Scheme).*

At its meeting in August 1933, the Indian Central Cotton Committee sanctioned a scheme of research, according to proposals submitted to it, in connection with the periodic partial failures which have befallen the Punjab-American cotton crop since 1919. As cotton research was already being conducted from the breeding, entomological and agricultural aspects, the scheme proposed to investigate the failure problem on physiological and biochemical lines. Its cost, as sanctioned by the Committee, amounted to Rs. 1,06,530 spread over a period of five years, whilst in addition the probable necessity of providing a further Rs. 40,000 for a greenhouse, where temperatures, humidities, etc., could be controlled, was recognised but the provision of funds for it was deferred until the Physiologist, to be appointed under the scheme, had examined the question further. In order to obtain a suitable experienced Physiologist it was subsequently found necessary to pay a higher salary than that provided in the scheme, the cost of which was, therefore, increased to Rs. 1,48,833 for the five years. Effect was given to this scheme in March 1935.

The preliminary investigations carried out by the Plant Physiologist on this scheme during the present cotton season (May to December 1935) have led to certain very important, striking and unique results, which indicate the probable

causes of the bad opening of bolls on well grown and healthy plants, which is experienced to some extent every year and which involves the whole crop in failure years. The following are the salient features of these results.

Inside the seeds of the cotton plant certain micro-organisms have been found. Secondary infection of the roots of the growing cotton crop is caused also by the same organisms which have been found in the soil in the roots of previous cotton and other crops. So far as has been observed up to the present, these bacteria do not appear to be harmful in the sense in which certain organisms are usually associated with bacterial diseases of plants. They, however, appear to set up a kind of pathological condition in the plant. First, the disintegration of chloroplasts in the leaves occurs and brings about an inhibition of the food manufacturing processes in the plant. Secondly, the production of tannins occurs in the leaves, roots and stems of the plants. These tannins precipitate the proteins and do not permit the hydrolysis of starch on account of their inhibitory effects on the enzymes. The food which is manufactured and stored in the roots and stems during the vegetative growth of the plant is not able to travel upwards and to reach the ripening bolls. The bolls, therefore, suffer through lack of nourishment and open badly. The proportion of bolls that open badly appears to depend on the time of the appearance of the "disease" and on its intensity. In the present cotton season the crop is regarded as normal, but still there exist thousands of plants which have opened badly, either totally or partially, on account of this "disease." A similar phenomenon is observed annually, and it may be that the total failures, which have occurred in certain years, were due to the "disease" having set in at an earlier stage in the growth of the plant.

This trouble is not confined to Punjab-American cottons alone. It has been found in indigenous cottons as well, but bad opening in the latter cottons does not usually occur. This may be due to the fact that the trouble starts later in the life of the *Desi* cotton plant than it does in that of the Punjab-American plant, and hence the conduction of the food to the bolls is not impeded to the same extent until the *Desi* cotton plant has passed the critical stage.

The peculiar "disease" which has been discovered within the leaves, stems and roots of the cotton plant in the Punjab are not confined to this province only. The Plant Physiologist has been receiving at frequent intervals during the year samples of cotton plants from different parts of India. He has also personally visited Sind, Indore and Dharwar and has himself examined microscopically some of the plants on the spot. These preliminary observations of outside material indicate that these abnormalities inside the cotton plant occur earlier in the life of the cotton plant in the Punjab than in the other places referred to, but the fact that they are present in those other parts of India, indicates that there too the cotton crop is not in a healthy condition and that the yields obtained may be adversely affected due to the plants being unable to perform their full normal functions.

The investigations carried out since March 1935, when this scheme came into existence, have been described in detail and have been illustrated by photographs in a separate report. The results have opened up new lines of investigation which it is considered necessary, in the interests of the cotton crop in India, to follow up thoroughly. It is necessary, not only to make a thorough and detailed study of the American and indigenous cottons in the Punjab and to trace the development of these peculiar pathological conditions, from the time the crop is sown until it is harvested, but simultaneously to make similar microscopic observation on the cotton crop in other parts of India. The work in view will entail very extensive physiological and microscopic work, with which the staff as at present sanctioned is unable to deal. It is proposed, therefore, that during the remaining four years of the scheme the staff should be strengthened by the addition at Lyallpur of one Assistant Physiologist, two Agricultural Assistants for microscopic work and one for field work. It is suggested also that continuous observations should be made at a number of other centres in India under the guidance of the Plant Physiologist, with a view to observe the stage in the growth of the various cotton varieties at which this "disease" appears and its rate of development throughout the life of the plant. The centres suggested are Sind, Indore, Madras, Dharwar, Surat and Nagpur. It is believed that the cotton staffs already existing at the first three centres are capable of making these observations without additional assistance, and hence Research Assistants have been provided in the accompanying statement for the last three centres only. Further, this staff has been proposed for one year only, the necessity of continuing it thereafter to be determined on the results of the observations made in the first year.

The programme of work proposed for 1936-37 is attached. The biochemical and bacteriological work proposed will be done by the staff already sanctioned. Further help in connection with the bacteriological aspect of the problem is needed and will be given by an Assistant employed by the Punjab Agricultural Department, in addition to his ordinary duties. As this additional work will involve much overtime, it is proposed to give him a small allowance. The necessary land, bullock labour and other requirements for the field work will be provided by the Agricultural Department. If these proposals are accepted, the additional funds required will amount to Rs. 84,725 spread over four years, according to the details shown in the attached statement. It is requested that the Indian Central Cotton Committee will provide these additional funds to enable this most important scheme of research to be thoroughly carried out.

Punjab Cotton Failure Research Scheme : New Programme of Work, 1936-37.

The work will be divided under the following heads :—

- (1) Biochemical.
- (2) Bacteriological.
- (3) Agricultural.
- (4) Microscopical Examination of all strains of American and *Desi* cottons at weekly intervals at Lyallpur.
- (5) Further investigations of the internal trouble.
- (6) Microscopic examination of the different strains of cotton plants at different centres in India with a view to find resistant varieties and the time of the incidence of the disease.

(1) *Biochemical*.—So far we have obtained qualitative tests about the Biochemical changes that occur inside the plant. It is, therefore, necessary to get quantitative determinations of the important substances that are produced as a result of the disease. Work will, therefore, be undertaken to determine the following :—

- (a) Extraction, separation and quantitative determinations of the tannin in the plant at different periods. The determination of the nature of the tannins will also be attempted.
- (b) Carbohydrate analysis of the plant at fortnightly intervals and their distribution inside the root, stem and leaf separately.
- (c) Quantitative estimations of the Diastases in the leaves, roots and stem during the season.

The above estimations will also be made at the time of maturity of plants showing good and bad opening.

(2) *Bacteriological*.—

- (a) Confirmation of the results so far obtained regarding the presence of organisms in the cotton plants.
- (b) Bacteriological examination of the seeds of cotton that are commonly cultivated in India and abroad.
- (c) Identification of the organisms found in the plant.
- (d) Regular Bacteriological Examination of old roots of cotton plants of the previous seasons and the roots of other Rotational crops.

(3) *Agricultural*.—

- (a) Growing different strains of cotton plants from India and elsewhere for Biochemical and microscopical investigations.
- (b) Field observations on American cottons obtained from different places in India and abroad.
- (c) Cotton plants will be grown on soil free from old roots of cotton and of other rotation crops, in order to ascertain whether they suffer from the disease.
- (d) Cotton plants will be microscopically examined periodically and side by side the yields of individual plants will be recorded in relation to the intensity of the disease in each individual plant, and against controls.

(4) *Microscopical.*—

- (a) Microscopic examinations of the commonly grown varieties of American and *Desi* cottons will be made to determine the time when the disease first appears and to see if correlations can be established between the appearance of the disease and the resultant yields.
- (b) Examinations of different varieties and strains of American and *Desi* cottons grown by the Cotton Research Botanist with a view to discovering disease resistant strains.
- (c) Examination of plants grown under para. 3 above (Agricultural) Sections (b) and (c).
- (d) Examination of old roots of cotton plants of the previous season and of the roots of other Rotational crops.

Microscopical examinations will be made every week and is one of the most important items of the programme.

(5) *Further investigation on the internal disease already discovered.*—It would appear that all steps leading to the abnormal changes inside the plants have not yet been discovered, and it is quite possible that many links in the chain of events are still lacking. Therefore, the original line of Research will be continued.

(6) *Microscopical Examination of cotton plants at different centres in India.*—Microscopical examination of different strains of indigenous and exotic cottons grown at Indore, Surat, Dharwar, Coimbatore, Mysore, Nagpur and Sind in order to determine the time of incidence of the "disease" and to discover resistant strains.

Copy of letter No. D. 6106/35/A, dated the 23rd December 1935, from the Offg. Agricultural Expert, Imperial Council of Agricultural Research, New Delhi, to the Secretary, Indian Central Cotton Committee, Bombay.

Mr. Burt and myself had before us recently the report of Mr. Dastur on the failure of the cotton crop in the Punjab. Mr. Dastur's report describes the failure of the cotton crop and the bad opening of bolls as due to abnormal metabolism in the plant of which the reddening of the leaf in American cottons is said to be one of the symptoms. Experiments are in progress to determine if the nutritional disorder is caused by deficiency of minerals. These experiments are not yet completed and their results must be awaited.

The author has however clearly established that there are abnormalities in the histology of leaf, stem and root in cotton plants which suffer from this trouble. In the case of the leaf the abnormalities may be summed up as accumulation of starch in the leaf which is followed by the disintegration of the chloroplasts, the production of excessive quantities of tannin and in the later stages in American cottons, reddening of the leaf due to the presence of anthocyanin pigments. In the case of American cottons, the leaf increases in thickness due to the elongation of palisade parenchyma which is accompanied by an elongation of the cells of the spongy mesophyll. Thus the lower surface of the leaf increases in area and the leaf becomes curled. This is somewhat reminiscent of what happens in a very obscure trouble of tobacco in Bihar of which the cause at present is unknown.

In the roots, the histology is also abnormal. The author describes the first symptoms as a brownian movement of very small particles. Presumably these particles are within the cells of the root but this is not stated. The particles are said to aggregate in cells and form colonies covered with a yellow mucilagenous mass. Later these yellow mucilagenous masses darken in colour and the number continually increases. They are mostly situated in the cortical region but are also found in the phloem. Another change which takes place in the cells of the root is the formation of deposits in the cortex and the phloem. These deposits appear to be protein precipitates but they also give the colour reactions of tannins. Ultimately the whole of the tissue of the bark becomes filled with this deposit which extends into the medullary rays and the xylem parenchyma. In this way all the conducting channels for the translocation of plastic material become filled

with substances which appear to be the precipitates of proteins, fats and tannins. Similar symptoms appear in the stem. The author considers that the above symptoms are abnormal feature of the cotton plant because—

- (1) these deposits are not ordinarily found in plants either allied to cotton or belonging to other families,
- (2) it is possible to find cotton plants which do not show these abnormalities, e.g., Verum and Buri,
- (3) 4-F cotton plants can also be found in which these abnormalities are absent,
- (4) the period at which these abnormalities appear varies from plant to plant.

It is evident that there has been a complete failure of the diastatic activity and breakdown of the translocatory mechanism which converts the starch into diffusible carbo-hydrates and carries it to the growing points. The evidence of association suggests that this disorganisation of the metabolism is the cause of the defective opening of bolls.

The author states that "the disintegration of chloroplasts in a healthy plant cannot occur except by the action of proteolytic enzymes secreted by micro-organisms present in the plants." The author states that rod shaped bacteria have been obtained in pure colonies in culture from leaves which presumably presented the abnormalities described above. The bacterium is said to be flagellate and it is said also that it occurs in the embryos of the seeds. It is also claimed that they are found in abundance in the roots of *Toria* which is a rotational crop with cotton in the Punjab. Details as to the manner in which this bacterium was obtained in culture are not given in the report and indeed the author admits that the disintegration of chloroplasts and the hypertrophy of mesophyll cells cannot at present be definitely attributed to this organism. The connection, if any, between the particles which show brownian movement and the bacterium is by no means clear. It is not definitely stated whether the particles are to be regarded as a stage in the life cycle of the bacterium or whether by becoming covered with a yellow mucilaginous mass, they merely form a desirable medium for the development of the bacteria. One curious point in this struggle is while the leaves of American cotton show the reddening, those of indigenous cottons remain green up to a very late stage and indeed this may take place even in American cottons.

The author has undoubtedly succeeded in describing serious abnormalities in cottons which show defective boll opening and he has elucidated the fact that these abnormalities are due mainly to a breakdown in the diastatic and translocatory mechanism of the plant. The evidence however that this breakdown is to be attributed to a bacterial infection is not at present complete and the author admits as much. It seems to me that what is required is a concentration on this bacterial aspect of the work. The author has undoubtedly shown that a certain micro-organism is present in plants which exhibit these symptoms. The evidence of association however in the case of plant diseases can be very misleading. Numerous instances occur to the mind in which a bacterium has been constantly associated with the disease but has ultimately been proved to be merely saprophytic in tissues which were destroyed by some other agency. A stock example in India is the story of *Bacillus coli* and the Bud rot of coconuts.

The first thing to do in further work on this problem is to get a complete life history of the bacteria. The proposals which we suggest for carrying on this work are :—

- (1) The retention of Dr. Verma, Assistant Physiologist,
 - (2) The provision of a Bacteriologist by the loan of a Bacteriological Assistant from the staff at Lyallpur,
 - (3) One additional Agricultural Assistant on the usual scale of pay for field work,
 - (4) Travelling allowance Rs. 3,000,
 - (5) Contingencies Rs. 3,000,
 - (6) Provision should also be made for a wire-netted insect proof house, pots and a steam-sterilising plant—
- | | |
|-----------------------------------|------------|
| Cost of wire-netted house | Rs. 2,500, |
| Purchase of pots | Rs. 3,000, |

for the carrying out of pot-culture work with cotton plants under sterile conditions which will exclude the visits of insects.

I am at present awaiting a reply from the Director of Agriculture, Punjab, as to whether a steam-sterilising plant is available at Lyallpur. I think it would

be an advantage if you can have a few copies of this letter cyclostyled and placed before the Agricultural Research Sub-Committee when the subject is being considered.

Punjab Cotton White Fly Research Scheme—Proposed extension of.

Secretary's Note.

The attached letter together with proposals for the extension of the Punjab Cotton White Fly Scheme for a period of six months up to the 30th September 1936, received from the Director of Agriculture, Punjab, is for consideration.

These proposals, which have been approved by the Punjab Provincial Cotton Committee, do not involve any additional grant as the estimated expenditure of Rs. 2,850 during the extension period of the scheme can be met from savings under the scheme.

The White Fly Scheme was sanctioned by the Committee in December 1930 for a period of three years at an estimated cost of Rs. 34,500 and it started work in April 1931. It was extended in January 1934 for a further period of two years at an additional cost of Rs. 21,587. Out of the total grant of Rs. 56,087, it is anticipated that there will be a saving of about Rs. 8,560 and the proposed expenditure of Rs. 2,850 can be met out of these savings without utilizing the savings under the Punjab Spraying Trials Scheme, as suggested by the Director of Agriculture, Punjab.

P. H. RAMA REDDI.

Copy of letter No. 105/37-236II, dated the 7th December 1935, from the Director of Agriculture, Punjab, Lahore, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT :—Punjab Cotton White Fly Research Scheme.

With reference to the correspondence ending with your letter No. 370, dated the 18th September 1935, I have the honour to submit herewith proposals made by the Entomologist to Government, Punjab, Lyallpur, for a brief extension of the Cotton White Fly Research Scheme in the Punjab.

The Cotton White Fly Scheme was started originally for a period of three years and came into effect from April 1931. It was subsequently extended for a period of two years which will expire on 31st March 1936. The harvesting of the cotton crop in the Punjab will continue till the end of January and the remaining two months from then to the present date of the termination of the scheme is insufficient for the completion of the analytical work, the compilation of results and the writing of the final annual report. The Entomologist, therefore, requests that the Laboratory staff may be retained for a further period of six months to complete the work. It is not intended during this period to carry out any new research and the field staff will, therefore, not be required.

The existing staff sanctioned for the White Fly Research Scheme has been also carrying out the large scale spraying scheme during the two years it has been in operation. The Indian Central Cotton Committee has sanctioned these large scale spraying operations for a third year, the actual work to be deferred until a bad white fly year occurs. If the summer of 1936 should prove to be a bad year the staff which it is now proposed to retain for the White Fly Research Scheme will deal also with the spraying operations although certain additional help will have to be given.

As stated by the Entomologist to Government, Punjab, the present proposals can be financed from savings in the grants already made by the Committee for these schemes.

The proposal has been considered and approved by the Punjab Provincial Cotton Committee and I have the honour to request that it may be considered at the meeting of the Indian Central Cotton Committee to be held next month.

WHITE FLY RESEARCH SCHEME.

I have the honour to submit herewith a very brief scheme for the extension of the period of the White-fly Investigation Scheme by six months only from April to September 1936.

In this connection, I may also point out that there are two schemes with regard to the White-fly Investigations, namely, (1) the White Fly Research Scheme, (2) the Spraying Trials Scheme, and both of these are supervised by the same staff.

Details about each of these schemes for which extension is requested are submitted below :—

I. *White-Fly Research Scheme.*

1. The investigations and the routine work connected with the programme of work adopted for the year 1935-36 will be continued till about the end of March 1936.

2. The work on one of the most important items on the programme, i.e., the relationships of Nitrogen and Carbohydrates in cotton plants with the white-fly infestation to estimate the nature of damage, is in hand. In all about 600 samples of cotton plants under different white-fly infestation have to be analysed chemically which undoubtedly will be carried over, long after March 1936, for analysis and compilation of the data collected.

3. Observations are being recorded on 160 plants under field cages and 880 plants in experimental plots under various treatments of manures and infestation, etc. Their flowering, shedding and yield records including, of course, ginning, etc., will have to be correlated with the white-fly infestation during the season. The interpretation of these results, however, will only be possible after the data for each set of experiments have been compiled.

4. Observations on the relative infestation of the white-fly during the year on the plants under various treatments and its after effects thereon are supplemented by a lot of planimeter work to estimate the leaf area examined.

Besides, it may be stated that ordinarily the compilation of one year's work for submitting the Annual Progress report only takes about three months after March. It is quite evident, therefore, that some additional time will be required for compiling the accumulated data of the last 5 years.

II. *Spraying Trials Scheme.*

The progress report of these trials for the year 1934-35 was considered by the Indian Central Cotton Committee in their last meeting held in August. According to their instructions conveyed in their letter No. 3312, dated 19th February 1935, and in the interest of the investigations and the public in general, the results of these trials extending over two years 1933-35 are to be compiled in a suitable form for publication. As these experiments were conducted at three different centres in the Province, and various types of machinery and a number of insecticides were tried, the compilation of this work alone will take a considerable time.

Under these conditions, primarily when a definite problem is yet under investigation and good bit of analytical work still remains to be finished, and secondly when the data of 5 years' investigation on the white-fly scheme and 2 years' work on the spraying trials are to be compiled and their results interpreted without which the whole of the work is of no value, it is requested that the Indian Central Cotton Committee may kindly extend this scheme for a further period of six months only up to the 30th of September 1936, with the reduced strength of the staff and other expenses as detailed below :—

<i>Staff.</i>						Rs.	Rs.
1 Asstt. Cotton Entomologist	..	..	..	..	..	325	1,950
1 Field Assistant	..	..	..	..	..	78	
					less 15 per cent. cut		402
1 Clerk	..	..	..	..	..	40	
					less 15 per cent. cut		204
1 Fieldman	..	..	..	..	..	28	168
Total							2,724
Contingencies, postage, etc.							126
Grand Total							2,850
<i>Approximate savings from the schemes :—</i>							
1. Spraying Trials Scheme	..	..	..	..	..		2,200
2. White-fly Scheme	..	..	..	..	..		1,680
Total							3,880

The Committee shall not have to incur any additional expenditure and even after the expenditure there shall be a balance of approximately Rs. 1,000.

*Madras Fodder Cholam Scheme—Proposed further extension of.***Secretary's Note.**

The attached letter received from the Madras Government forwarding proposals for the extension of the Madras Fodder Cholam Scheme for a further period of at least one year from the 15th June 1936 at an estimated cost of Rs. 4,610 is for consideration. It will be seen from the attached proposals that provision has been made for leave and pension contributions on behalf of the Additional Assistant and the Laboratory Attender, amounting to Rs. 400. As the Committee has decided at its 27th meeting held in August 1933 that the recovery of leave and pension contributions on behalf of the officers lent by local Governments for work on the Committee's schemes should be waived by the local Governments concerned, the grant for the extension of this scheme, if sanctioned, will be reduced by Rs. 400.

This scheme was originally sanctioned in July 1930 for a period of three years and it commenced work in January 1931. In August 1933, it was extended for two years and five months up to the 14th June 1936. The total cost of the scheme sanctioned by the Committee amounts to Rs. 17,700.

The Agricultural Research Sub-Committee at its Special Meeting held in June 1934 decided that this scheme might be allowed to continue till the end of its sanctioned period only.

P. H. RAMA REDDI.

Copy of letter No. 1804 (Ms.), dated the 20th December 1935, from the Secretary to the Government of Madras, Development Department, Madras, to the Secretary, Indian Central Cotton Committee, Bombay.

Madras Fodder Cholam Scheme—Further Extension.

I am directed to forward the proposals of the Director of Agriculture, Madras, for a further extension of the Madras Fodder Cholam Scheme for at least a period of one year from the 15th June 1936 and to request you to be good enough to obtain the sanction of the Committee and of the Government of India.

EXTENSION OF THE MADRAS FODDER CHOLAM SCHEME.

This scheme was sanctioned by the Committee in July 1930 for a period of three years for the purpose of determining the factors responsible for the lower yields obtained in cotton when grown after fodder cholam and of devising suitable remedial measures against the depressing effect. The regular work of the scheme was started on 14th January 1931.

2. The investigations, during this period, brought to light a number of interesting and very suggestive facts. To mention a few—

- (a) The growing of leguminous fodders like sunnhemp (*crotonaria Juncea*), horse gram (*phaseolus bifloras*), in the place of fodder cholam, increases the yield of cotton by nearly 40 per cent., but the dry weight of fodder obtained is reduced by at least 25 per cent.
- (b) The ill-effects of fodder cholam are more evident when the crop is allowed to set seed. If, on the other hand, it is harvested at the flowering stage, the succeeding cotton yields as much as that following Cumbu; but by this change in the time of cutting cholam, the yield of fodder is diminished by about 40 per cent. and is also liable to be damaged by freakish rains that are not infrequent in these parts at the close of the North-east monsoon period.
- (c) The low yields obtained in the *juar* plots are not due to any deficiency in the moisture content of the soil.
- (d) The *juar* roots disturb adversely the texture of the soil with the result that the normal nitrification processes and percolation of rain water are seriously impaired.

3. At its 27th meeting held in August 1933 the above findings were scrutinised and the continuance of the scheme was found necessary. An extension of two years and five months was granted and the following points of investigation were proposed for study :—

- (1) Trials of various combinations of pulse and fodder with a view to determine the most suitable mixture.
- (2) Other possible ameliorative measures including pot-culture studies.
- (3) A study of typical soil profiles and of the nature and extent of soil colloids in the Tinnevely soils when cropped with Cholam, Cumbu and Cotton.

4. Work on the above lines was commenced early in 1934 ; but the unexpected rainless summer and the lateness and subsequent failure of the south-west monsoon in 1934 had upset the normal soil conditions with the result that the data of field experiments secured in the first year after the extension had to be declared as not representative and inconclusive. Now if the scheme is to be terminated by the 14th June 1936, according to the decision of the Committee, it will be left with only one year's data to rely upon even presuming that 1935-36 will turn out normal. It is needless to point out that such a state is rather not desirable.

5. Further it has been found that, as a result of cropping the black cotton soils of the Tinnevely district with cholam, significant changes are induced in the nature and extent of soil colloids. The cationic composition becomes richer in Sodium—a very undesirable constituent for heavy soils. There is also an increase in the clay content. These findings explain to a certain extent the reduced permeability of the cholam soils and their defective texture. It will be necessary to find out how exactly these changes are brought about and in what manner they are connected with the cultivation of fodder cholam, more particularly with the process, in it, of seed-setting, before the ameliorative measures that are being tried are rationalised.

6. It will be obvious from the foregoing account that a further extension is essential for the completion of the programme of 1933. It is, therefore, requested that the scheme be sanctioned for a period of at least one year from 15th June 1936.

7. The probable expenditure needed for this period is furnished in the appended statement.

(Sd.) S. KASINATH,

for Cotton Specialist.

Dated the 26th November 1935.

Khandesh (Banilla) Seed Distribution Scheme—Proposed extension of.

Secretary's Note.

The attached proposals, received from the Director of Agriculture, Bombay Presidency, for the extension of Khandesh (Banilla) Cotton Seed Distribution Scheme are for consideration.

For 5½ years from October 1926, the Committee financed a scheme in Khandesh at a total cost of Rs. 26,573 to enable the Agricultural Department to give a thorough test to some of the Bani-Comilla crosses made by the Department in 1908. As a result of these tests, it was found by the end of the year 1930, that one of these crosses, *Banilla*, which had spread on its own merits over a lakh of acres, was, in spite of its decreasing spinning performance from 20's to 14's and its susceptibility to wilt, more paying to the grower than N.R. or the local mixture. The Committee, therefore, sanctioned a seed distribution scheme in December 1930 for the extension of *Banilla* in the Khandesh tract. The following extract from the Report of the Agricultural Research Sub-Committee will show that the Committee looked upon *Banilla* only as a type just good enough to fill the gap between then and the time when a more suitable and better type for the tract would be available :—

“The Sub-Committee considers that the grower will benefit considerably if this variety is distributed so as to replace the existing ones even though *Banilla* may be replaced later by a better variety.”

In Appendix II* to the proposal is given a statement showing the changes in the original scheme that would be effected under the proposals now put up. A copy of the original proposals is therefore attached† for purposes of comparison.

* Not Printed.

† Not Printed.

The following comments may, however, be made on the two schemes :—

Pay of Staff.—The annual pay of staff has increased from Rs. 12,708 to Rs. 15,507 as under :—

		<i>Average of 3 years.</i>	
Stages I and II.—I.	Pay of Establishment	Rs.	4,054
Stages III, IV and V (part).—			
I.	Pay of Officers	Rs.	5,980
II.	Pay of Establishment	Rs.	5,473
Total ..		Rs.	15,507

The annual increments of the staff and the higher cost of the Cotton Superintendent, Amalner, appear to be the reason for the increase.

Travelling Allowance.—This has been raised from Rs. 1,500 to Rs. 1,700.

Contingencies.—Considerable reduction has been effected in this item as a result of the experience of the past five years and the transfer of the seed stocking transactions to the Personal Ledger Account of the Director of Agriculture, so much so the expenditure under this head has now been brought down from Rs. 37,860 to Rs. 9,900.

Roguing Charges.—Roguing charges are calculated at the rate of three annas per acre. It is not known why these charges should be so high in this scheme while in the Jayawant and Tiruppur schemes they are only at half anna per acre.

Receipts.—Against the estimated receipts of Rs. 22,000 per annum on the average, the actuals were only Rs. 9,468, according to the figure quoted by the Director of Agriculture.

The Committee is not entitled to get receipts in Stages III, IV and V (part) because the seed stocking and selling part in the scheme will be undertaken by the Director of Agriculture from his Personal Ledger account funds.

Finance—Share of the Committee.—The estimated total cost of the Extension Scheme for three years is Rs. 81,921. The Committee will not, however, have to bear the whole of this expenditure, since a sum of Rs. 18,000 may be expected by way of receipts from the sale of farm produce. The net amount, the Committee is being asked to bear, is therefore only Rs. 63,921.

The Director of Agriculture suggests that this amount can easily be met from the balance available from the original scheme. What that balance should be is a moot point. As in the scheme now under consideration, the original scheme was also based on the expectation of receipts covering a part of the gross expenditure, as shown in Column 2 below :—

(1)	Original estimate as sanctioned by the Committee in 1930.	Revised estimate shown in the Director of Agriculture's letter.	Savings (+) Deficit (—)
	(2)	(3)	(4)
	Rs.	Rs.	Rs.
A. Gross expenditure ..	2,70,340	1,76,464	+ 93,876
B. Receipts	1,10,000	28,561*	— 81,439
C. Net cost of the Scheme.	1,60,340	1,47,903	+ 12,437

* Receipts advised up-to-date.

It is for consideration whether, as suggested by the Director of Agriculture, the savings under item A can be carried forward and utilised for the extension of the scheme since the savings under item C are not sufficient to meet the corresponding estimated net cost of Rs. 63,921 for the extension.

Finance—Share of the Bombay Government.—In February 1935 the Committee laid down the principle that in order to relieve the burden on the Committee, Provincial Governments should accept increasing financial responsibility for such schemes as at the end of their sanctioned periods were found to have produced results of definite value. And in accordance with this principle the Committee decided that in extending the Punjab Botanical Scheme the Committee should offer to pay only half the cost of the scheme, after deleting the cost of all supplies and services. Also at the August 1935 meeting in sanctioning the Jayawant Seed Scheme the Committee stipulated that the Bombay Government should bear 25 per cent. of the cost of the scheme.

In pursuance of the above-mentioned policy of the Committee, it is now necessary to decide what part of the total expenditure on the scheme should be borne by the Bombay Government. The proposals under consideration do not make this point clear, though it is stated that the seed stocking part of the scheme will be undertaken from the Personal Ledger Account funds of the Director of Agriculture.

P. H. RAMA REDDI.

Copy of letter No. S-36-P-V, dated the 19th December 1935, from the Director of Agriculture, Bombay Presidency, Poona, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT :—Khandesh (Banilla) Cotton Seed Distribution Scheme—Extension of the.

In inviting reference to your letter No. 2396, dated 10th January 1931, sanctioning the above scheme, I have the honour to state that the sanctioned period of five years of this scheme will expire at the end of April 1936. The Deputy Director of Agriculture, N. C. D., Nasik, has submitted proposals (copy enclosed) for the extension of the period of this scheme for a further period of three years at a total cost of Rs. 81,921. The object of this extension is to cover with Banilla cotton a suitable tract in the Tapti valley talukas in a compact block. It is also expected that by the end of this period the new long-stapled Verum cotton selection will be available for spread and the seed multiplication and distribution organisation proposed for this Banilla extension work, will then be available for the new cotton.

2. In this connection, I may state that there will be an unspent balance of about Rs. 93,876 at the end of the current five years' scheme which expires at the end of April 1936. This is as detailed below :—

	Rs.	Rs.
Sanctioned grant of the scheme		2,70,340
Deduct total expenditure up to 31st March 1935 ..	1,27,089	
Probable expenditure during 1935-36 and April 1936 ..	49,375	
		<u>—1,76,464</u>
Approximate balance at the termination of the present sanctioned period of five years		<u>93,876</u>

I, therefore, propose that the above balance may be made available for meeting the total expenditure of Rs. 81,921 of the proposed extension period of the scheme so that the Indian Central Cotton Committee will not require to make available any fresh amount on this account. Moreover the Deputy Director of Agriculture, N. C. D., estimates total receipts amounting to about Rs. 18,000 on the basis of actual receipts so far obtained since the commencement of the scheme, and if this amount is deducted from the total cost of the extension period of the scheme (Rs. 81,921) the net cost of the scheme will be Rs. 63,921 for three years and this amount can be easily met from the balance available in the original scheme.

3. I would, therefore, request that you will be so good as to place these proposals before the Agricultural Research Sub-Committee of the Indian Central Cotton Committee at the ensuing meeting to be held on 9th and 10th January 1936 for consideration.

BANILLA COTTON SEED DISTRIBUTION SCHEME IN KHANDESH.

Proposal for Extension.

The Scheme.—The introduction of Banilla cotton into general cultivation in Khandesh dates from the year 1927 when it was grown on an area of 800 acres from seed supplied by the Agricultural Department. The cotton soon became popular among the cultivators on account of its satisfactory yield in favourable localities and among the traders on account of its assets of higher ginning outturn and superior staple than the local Khandesh cotton as a result of which Banilla cotton fetched a premium of Rs. 2 to 3 per maund of 168 lbs. of seed cotton over the local cotton. As there was a great public demand for Banilla cotton and as there was no alternative improved type immediately available, a Seed Distribution Scheme for Banilla Cotton in Khandesh was launched by the Indian Central Cotton Committee in May 1931 for a period of 5 years, pending further research aimed at producing a cotton superior to Banilla in respect of spinning performance and resistance to wilt disease.

This period will expire by the end of April 1936. It is now proposed that the scheme be extended for a further period of 3 years. The total cost for the extended period is estimated to be Rs. 81,921 against which the total receipts will be Rs. 18,000, the total net cost thus being Rs. 63,921, i.e., Rs. 21,307 per year.

Brief review of work done.—As laid down in the original scheme pure seed of Banilla cotton was annually multiplied through four successive stages at the end of which the seed was distributed for general cultivation. Under Stage I "selfed" seed was produced on the Government Farm at Dhulia. For Stage II a farm of 206 acres was rented at Bhadgaon (East Khandesh district). Stage III was operated in a small group of villages in the Amalner Taluka of East Khandesh District. Under Stage IV the seed multiplication areas were organised in five talukas, viz., Amalner, Erandol, Pachora and Chalisgaon of the East Khandesh District and Shirpur Taluka of the West Khandesh District. A sixth centre on a small scale in the Malegaon Taluka of the Nasik District was subsequently added.

The following two statements show the areas organised for the multiplication of the pure seed under the different stages and the quantities of seed produced during the past five years:—

(a) *Seed multiplication areas.*

Year.	AREAS.				
	Stage I.	Stage II.	Stage III.	Stage IV.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.
1931-32	6½	93	871	1,909	2,879½
1932-33	6½	102	1,012	3,449	4,569½
1933-34	6½	104	1,359	11,355	12,824½
1934-35	12½	107	1,852	14,020	15,991½
1935-36	10½	106	2,089	13,909	16,114

(b) *Quantities of pure seed produced.*

Year.	Quantities in lb.				
	Stage I.	Stage II.	Stage III.	Stage IV.	Total.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
1931-32	864	8,386	36,920	99,570	145,740
1932-33	1,095	15,860	140,920	467,478	625,353
1933-34	1,095	20,000	176,410	1,255,810	1,453,315
1934-35	1,158	18,590	245,000	1,642,314	1,907,062
1935-36	Current year.				

The above figures indicate a satisfactory progress of the scheme. The seed distribution was mainly done in the five centres of the scheme. Small demands from other talukas were also met. The area now grown under Banilla cotton is estimated to be 130,000 acres representing nearly 10 per cent. of the total area under cotton in the Khandesh tract. The accompanying map shows the distribution of the area under Banilla in the various talukas of the Khandesh tract.

Necessity of extension of the scheme.—It has been stated above that the area covered under Banilla cotton is at present about 130,000 acres. This area, however, is spread over a wide range in the various talukas. Experience of the past five years has indicated that Banilla cotton gives more satisfactory yield and better quality of staple in the black soil area than in the lighter descriptions of soil in Khandesh and further that the black soil tract free from wilt and situated in the Tapti belt in the talukas of Shahada, Nandurbar, Shirpur, Chopda, Sindkheda, Amalner and Erandol is more favourably adapted for the growth of Banilla cotton. The extent of such a tract is about 300,000 acres. It is for covering up this area in a compact block that the scheme needs extension.

The original Banilla Scheme was started pending further research of superior type of cotton. Success in the research is well within sight. Some promising strains of Verum type have been isolated on the Jalgaon Farm and have been found to be highly wilt resistant and to possess a staple length of 9/10th of an inch capable of spinning 30's and over. The progress made so far in the isolation of these strains warrants the hope that one of them is likely to be found suitable for general cultivation in Khandesh. The trials of these new selections for yield performance and staple quality under varying soil and climatic conditions will be undertaken from the coming season. These trials shall have to be carried on for a period of two or three seasons before finally deciding the suitability of the type desired for Khandesh. The rapid production and distribution of pure seed of the prospective cotton would need the whole of the organisation of the Banilla scheme.

Future line of work.—All the four stages of the multiplication of pure seed at present in operation will also be required in future and these, as modified to suit the work in the proposed compact block will be as under :—

Stage.	Where located.	Character of work to be done.
I.	Bhadgaon Farm	1,000 lbs. of selfed seed to be produced.
II.	Bhadgaon Farm	Seed multiplication on 100 acres.
III.	A small group of villages in Amalner taluka.	This will be the inner reserved area on which seed multiplication will be made on 1,000 acres.
IV.	Amalner and Shirpur talukas ..	This will be the outer reserved area on which seed multiplication will be made on 8,000 acres.
V.	Six centres, viz., Shahada, Shirpur, Chopda, Amalner, Erandol and Nandurbar.	Seed distribution for an area of 60,000 acres.

Stage I for producing selfed seed and Stage II for the multiplication of the selfed seed will be carried on at one place, viz., Bhadgaon Farm with a view to control the work more efficiently at reduced cost. The lease of the Bhadgaon Farm will be renewed for a further period of three years. Under Stage III the same group of villages in the Amalner taluka will be retained; whereas under Stage IV it is intended to concentrate the work of seed multiplication in the two talukas of Amalner and Shirpur only on an area of 8,000 acres. Thus at the end of Stage IV about 1,500,000 lbs. of pure seed will be obtained annually which will be enough for covering an area of about 60,000 acres.

Staff.—The present staff employed will continue. In Stage I, however, only one Kamgar will be retained instead of three owing to the shifting of the selfing work from the Dhulia Farm to Bhadgaon and his post will be converted into that of a counter.

Finance.—In the original scheme the Director of Agriculture advanced money for the purchase of seed and the Indian Central Cotton Committee provided funds for the staff and all contingencies. During the proposed period of extension the Director of Agriculture will advance money for the purchase of seed as well as for the incidental expenditure of recoverable nature in connection with the stocking and distribution of seed such as purchase of bags, rent of depots, transport, etc. It is proposed that the Indian Central Cotton Committee should provide funds for the staff and other contingencies of the different stages. The estimated annual cost during the proposed period of extension will be Rs. 27,307, i.e., Rs. 81,921 for the period of three years. The following are the details :—

	Rs.	Rs.
I. <i>Non-recurrent for Stage II</i>		600
II. <i>Recurrent—</i>		
<i>Stages I and II.</i>		
Pay of Establishment	12,162	
Travelling allowance	600	
Contingencies	22,500	
		35,262
<i>Stages III, IV and V (part).</i>		
Pay of staff	34,359	
Travelling allowance	4,500	
* Contingencies	7,200	
		46,059
* Roguing	Rs. 1,700	
Rent	360	
Office expenses	340	
	Rs. 2,400 per year.	
Total ..		81,921

The receipts against this expenditure will be the income of the Bhadgaon Farm under Stage II which are estimated to be Rs. 6,000 per year, i.e., Rs. 18,000 for three years.

The net cost of the scheme during the extended period will thus be Rs. 21,307 per year, i.e., Rs. 63,921 for three years.

Conclusion.—The superiority of the Banilla cotton over the local in point of its ginning percentage and quality of staple cannot be gain-said. It has obtained a premium, ranging from Rs. 10 to Rs. 15 per *khandy* of 784 lbs. over the local. The cotton is found to have a ready sale in the local markets of Amalner and Dhulia and in favourable localities, it has maintained its capacity to spin 14's to 16's counts. In view, therefore, of the consumption of this cotton to the extent of 15,000 bales in the local mills, the desirability of extending the period of this cotton seems all the more necessary pending its replacement by a still superior and highly wilt-resistant type of cotton.

To sum up :—

- (1) The Banilla Seed Distribution Scheme should be extended for a further period of three years.
- (2) The area of its operation should be concentrated in the Tapti valley.
- (3) The whole of the present staff with the exception of the two Kamgars of Stage I should continue.
- (4) The scheme is estimated to cost gross expenditure of Rs. 81,921 against the gross receipts of Rs. 18,000. The net cost would be Rs. 63,921 for the period of three years.
- (5) There has been a balance of about Rs. 93,876 with the Indian Central Cotton Committee from the funds sanctioned for the original five-year scheme. This balance may be made available to meet the cost of the extension scheme.

APPENDIX IX.

SUBJECT 24.—*Report of the Cotton Forecast Improvement Sub-Committee.*

Secretary's Note.

The Cotton Forecast Improvement Sub-Committee met at 3 p.m. on Thursday, the 9th of January 1936, and considered the following subjects which are also on the agenda of the full Committee :—

Reports of Enquiries into the Village Consumption of Cotton (Subject 26).

Central Provinces and Berar Report.—In view of the explanation offered by the Director, Land Records, regarding the unreliability of figures of past censuses of cotton carts to verify village consumption figures obtained from the enquiry, the Sub-Committee recommends that the Central Provinces and Berar Report may now be approved.

United Provinces Report.—The amendments to the Report put forward by the Statistician to the United Provinces Government may be accepted and the Report approved. In general, it is, however, necessary to check consumption figures for the districts of one province with those for the adjoining provinces, when available.

Sind.—As no non-cotton-growing district of Sind was investigated during the enquiry, the Sub-Committee recommends that the consumption of cotton in the villages of Larkana district be investigated.

Bihar.—The proposals made by the Director of Agriculture may be approved.

Madras.—The Director of Agriculture has agreed to find out what happens to the cotton brought into non-cotton-growing districts.

The Sub-Committee further recommends that Madras, Sind and Hyderabad authorities be requested to send in their respective reports in time for discussion at the next meeting of the Sub-Committee.

Post-Mortem Examination of Cotton Forecasts of 1934-35 Season (Subject 25).

Sind.—The under-estimation noticed in Sind crop forecasts is probably due to the low normal yield at present used for computing the crop of Hyderabad and Nawabshah districts. The Sub-Committee, therefore, recommends that the normal yield of these two districts be revised in the light of available information.

There is a large discrepancy between the commercial crop of 448,379 bales accounted for in the block, "Sind and British Baluchistan (including Karachi)," and the net-export of pressed and loose cotton amounting to 344,065 bales from the block "Sind and British Baluchistan (excluding Karachi)." As Karachi grows no cotton, it is to be inferred that this discrepancy is due to the variation in trade stocks reported from Karachi being incomplete. This point should be further examined.

United Provinces and Bombay.—If village consumption is ignored the total quantity of ginned cotton is very near the forecasted crop, and the difference between the commercial crop and the forecasted crop is also small. This is satisfactory.

Punjab.—In the case of the Punjab, further efforts to improve the accuracy of the States' forecasts should be made by requesting the Government of India to draw the attention of the States to the need for compiling their forecasts with greater care.

Central Provinces and Central India.—The position with regard to these two crops appears to be very satisfactory.

Madras.—The under-estimation of the crop does not appear to be much, but until the question of the total amount of cotton that is annually used for village consumption is settled, it might be premature to make any further comment on this crop.

Rajputana.—The Sub-Committee understands that some of the States in Rajputana are not bestowing as much care on the preparation of cotton forecasts as they should. It is, therefore, recommended that the States who are members of the Institute of Plant Industry, Indore, should be approached through the Board of Governors of the Institute to do the needful. The Deputy Director of Statistics will supply a list of the States concerned.

Nizam's Territory.—The Director of Statistics thinks that the discrepancy is probably due to the export of cotton by road, and has, therefore, agreed to examine this point.

Cotton Crop Forecast Improvement Scheme in the Bombay Presidency—Proposed permanent retention of the Staff or extension of Scheme for three years (Subject 27).

The Sub-Committee recommends that this scheme be extended for a period of three years from the 16th June 1936 at a total estimated cost of Rs. 16,500, subject to the condition that during the period of this extension, the scheme will continue to undertake the full programme of work both for Bombay Presidency Proper and Sind and that at the end of these three years the Sind and Bombay Governments should continue the work at their own expense; the provincial officers concerned might include other crops as well in their investigations.

Crop Atlas of India—Varietal Cotton Map (Subject 44).

The Sub-Committee recommends that a varietal cotton map of India based on the Revised Scheme of Trade Classification of Indian cotton should be incorporated in the new edition of the Crop Atlas of India. The attention of the Bombay and Madras Governments, who have not yet replied to the enquiry of the Director-General of Commercial Intelligence and Statistics should be drawn to the fact that the preparation of this map is being held up for want of their replies.

The Sub-Committee recommends—

- (1) that the request of the Director of Agriculture, Central Provinces, may be agreed to,
 - (2) that item IX (2) in the Revised Scheme may be retained,
 - (3) that Sironj, Chhabra and Pirawa Parganas of Tonk, and Jhalawar and Partabgarh States may be included under "Central India,"
 - (4) that, in the Varietal Map, Bengals, Oomras, Hyderabad, Gaorani, Central India, Broach, Surti, Dholleras, Southernns, Tinnevelles, Salems, Comillas and Burmas may be shown by distinctive colours. The relation between Oomras and Central India crops and between Broach and Surti crops can be brought out by a suitable choice of like colours or different shades of the same colour,
 - (5) that Americans, Verum, Banilla and Cambodias may be shown in their respective tracts by hatching,
- (N.B.—Sub-classes such as Malvi and short-staple Dholleras need not be shown in the map.)
- and (6) that the sub-classes United Provinces *Deshi*, Punjab *Deshi*, Sind *Deshi*, Rajputana *Deshi*, Berar Oomras, Central Provinces Oomras, Nimar Oomras, Khandesh Oomras, Barsi-Nagar Oomras, Hyderabad Oomras, Gujerat Dholleras, Kathiawar Dholleras, Cutch (Dholleras), Kumpta and Upland, Bijapur and Bagalkot Jowari, Westerns, White and Red Northernns, Warangal and Cocanadas and Chinnapathi may be demarcated by boundaries and named.

P. H. RAMA REDDI.

APPENDIX X.

SUBJECT 28.—*Report of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet.*
- (b) *Financial Statement.*
- (c) *Revised Estimates, 1935-36.*
- (d) *Budget, 1936-37.*
- (e) *Auditors' fees.*

Secretary's Note.

Three meetings of the Sub-Committee were held since the last meeting of the Committee in August 1935. Mr. M. Durutti, having resigned, his place on the

Sub-Committee was taken by Mr. A. A. Sarantides, who succeeded the former on the Committee.

2. At its meeting in September 1935, the Sub-Committee sanctioned an additional grant of Rs. 42,303 for the Punjab Cotton Failure Scheme, thus raising the total grant to Rs. 1,48,833. The additional grant sanctioned was required as the Plant Physiologist was appointed on a higher scale of pay than that originally provided for and also on account of the payment of leave and pension contributions on his account.

3. The Sub-Committee sanctioned the appointment of an additional Junior Clerk in the Statistical Section of the Secretary's office on Rs. 60—3—90.

4. In pursuance of the Committee's decision in January 1934, the Sub-Committee considered the question of placing in order of priority for starting schemes extended and those sanctioned by the Committee at its meeting held in August last, and decided that the Scheme for Survey of Cottons in Rohilkhand and Bundelkhand, United Provinces, should be continued and that the Scheme for the extension of B.D. 8 cotton in Broach District should be started as early as possible. As regards the scheme for the distribution of Jayawant and Gadag No. 1 cottons in the Southern Division of the Bombay Presidency, the Sub-Committee decided that action should be delayed till the Vice-President had a consultation with Dr. W. Burns, Director of Agriculture, Bombay Presidency, on the return of the latter from leave and that in the meanwhile the Government of Bombay should be asked for their share of the cost of the scheme.

5. The Sub-Committee considered a request from Rai Saheb G. R. Dutt, Entomologist to the Government of the Central Provinces, for the grant of an honorarium and a monthly remunerative allowance for supervising the Central Provinces and Berar Entomological Research Scheme financed by the Committee. In view of the Committee's decision that the practice of granting personal allowances to officers serving under Local Governments should be put an end to, the Sub-Committee was unable to grant the request.

6. The Sub-Committee considered and refused the request of the Director of Agriculture, H. E. H. the Nizam's Government, for a revision of the scale of pay of the 1st and 2nd Assistant Cotton Research Botanists working on the Hyderabad Botanical Research Scheme.

7. In pursuance of a resolution passed by the Sub-Committee at its meeting held in October 1932 fixing the basic pay of the Secretary of the Committee at Rs. 1,600—50—1,800 *plus* Overseas pay of Rs. 300 *plus* House Rent Allowance of Rs. 250 per mensem, the Government of India were addressed by the President. The proposals were, however, not accepted by the Government of India.

8. At its meeting in March 1935, the Sub-Committee decided to apply the Government of India Model Leave Rules, 1934, as for officers on contract, to its own employees engaged on its schemes sanctioned for specific periods and this decision was confirmed by the Committee at its meeting held in August last. As it was thought that the application of the new rules might adversely affect those employees of the Committee who under the rules to which they were previously subject had accumulated leave in excess of the limits laid down in the new rules, the Sub-Committee approved of the suggestion made by the Secretary that such employees should be permitted to add to their leave accounts the excess leave earned by them over the limits prescribed in the new rules, but to debar them from earning any further leave until the excess had first been wiped off.

9. The Committee at its meeting held in August last considered proposals for the extension of the Bikaner Gang Canal Scheme for a period of five years and decided that if Mr. Hutchinson wanted a sub-station in the Bengals area for his work on genetics he might be provided with one either at Raya Farm or Delhi or Ganganagar whichever was the least expensive. The above decision was communicated to the Director, Institute of Plant Industry, Indore, and the views of Mr. Hutchinson forwarded by him together with proposals for the extension of the Bikaner Scheme for a further period of five years were considered by the Sub-Committee. In view of the fact that the scheme was due to terminate on the 31st December 1935, the Sub-Committee decided to extend it only up to the 31st March 1936 and to leave the question of its further extension to this meeting of the Committee. This subject is dealt with under a separate item on the agenda.

10. The Sub-Committee considered the question of the appointment of auditors for the Committee's accounts for the year 1936-37, and decided that Messrs. S. B. Billimoria & Co. be re-appointed as the Committee's Auditors for the year 1936-37, at a remuneration of Rs. 750 per annum.

11. A Balance Sheet of the audited accounts of the Committee's funds and of the Provident Fund as on the 30th September 1935 and also the Financial Statement as on the 30th November 1935 are attached for information. Rs. 14,60,793-0-2 of the Committee's securities are invested in Government paper and Rs. 6,13,040-10-0 in long-dated Corporation Bonds. The market value of the Committee's securities, as will be seen from the Financial Statement, has appreciated by Rs. 4,54,225. To finance all the schemes, which are to be put in operation, it will be necessary in the near future to sell some of the securities.

12. Revised Estimates of Receipts and Expenditure for the current financial year are submitted for approval. Receipts from the cess up to the 31st March 1936 have been estimated at Rs. 6,50,000 against the original estimate of Rs. 6,00,000 and interest at Rs. 1,24,000 against Rs. 1,16,000 in August last. Under Miscellaneous Receipts Rs. 2,01,000 have been shown against Rs. 2,10,116 in August last. Out of this sum Rs. 1,96,787-13-7 represents profit on sale and conversion of securities.

The total expenditure for the current year is now estimated at Rs. 12,08,741 as against Rs. 12,92,600 in August last, the decrease of Rs. 90,859 being chiefly due to savings as detailed in the Revised Estimates. The closing balance (excluding recoverable loans amounting to Rs. 12,083-12-10) at the end of the current year will remain at Rs. 24,13,195-11-5 as compared with Rs. 26,37,099-11-7 at the end of last year.

13. The draft budget for 1936-37 is also submitted for approval. The estimates of receipts for cotton cess are the same as budgeted last year, viz., Rs. 6,00,000. The figure under interest has been reduced from Rs. 1,16,000 to Rs. 1,10,000 in view of the necessity which is likely to arise for the sale of some of the securities. The budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. Under Miscellaneous Receipts, the usual provision of Rs. 4,000 has been made. This does not take into account any profits that may be realised if securities are sold in the course of the year.

14. The Sub-Committee requests that it may be empowered to settle finally the administrative changes that may be necessary in the Secretary's office owing to the appointment of Deputy Secretary being held in abeyance by the Government of India after consideration of a report by the Secretary on the working of the present arrangements.

15. A Selection Sub-Committee consisting of the following members was appointed to select a candidate for the post of Biochemist in the Punjab Cotton Failure (Physiological) Research Scheme rendered vacant by the resignation of the present incumbent on the ground of ill-health :—

The President,
The Vice-President,
Mr. S. D. Saklatvala,
Mr. H. R. Stewart,
Dr. W. Burns,
Dr. T. S. Wheeler.

16. The Government of India have, in accordance with the Committee's Resolution passed at its last meeting, accorded sanction to a pay of Rs. 1,000—50—1,100 for the Publicity Officer in modification of the previous orders passed by them sanctioning a pay of Rs. 950—1,000—1,000.

17. At the request of the Imperial Council of Agricultural Research the appointment of Dr. Nazir Ahmad, Director, Technological Laboratory, as a member of the Soil Science Committee of the Council was agreed to.

P. H. RAMA REDDI.

APPENDIX XI.

SUBJECT 29.—*Lancashire-Indian Cotton Committee—Work of—
Note by Mr. H. C. Short, Cotton Commissioner.*

Secretary's Note.

Mr. H. C. Short, Cotton Commissioner, Lancashire-Indian Cotton Committee, has forwarded the attached note giving a short account of the work of that Committee.

P. H. RAMA REDDI,

NOTE.

The work of the Lancashire-Indian Cotton Committee continues to show good progress. Through the medium of meetings, extensive propaganda and personal interviews they are encouraging many spinners to use Indian cotton, who have not tried it before.

In September, in response to a request from the Committee, the British Cotton Industry Research Association organised for the benefit of its members a display of yarns and cloth made in whole or in part from Indian cotton. The counts ranged from 8's to 40's, and the demonstration included straight Indian cottons and mixings of Indian and American cottons.

This exhibition was attended by large numbers of firms and great interest was shown in it.

On his return from India Mr. H. C. Short had numerous interviews with spinners and manufacturers in different parts of Lancashire, the object being to help them with any difficulties they may have come across and to discuss the different varieties of Indian cotton and the uses to which they might be put.

Mr. S. Taylor, one of the principal liaison officers of the Shirley Institute was appointed during the year to interview manufacturers and spinners on behalf of the Committee. As he has had considerable experience in Indian cotton at the Shirley Institute, he has helped to solve many technical difficulties which have been encountered.

Intensive research work on Indian cottons continues at the Shirley Institute and between 40 per cent. and 50 per cent. of their time is now devoted to this section.

It is encouraging to note that spinners are taking much more interest in Indian short stapled cottons than was formerly the case and imports of this cotton are steadily increasing.

The Lancashire-Indian Cotton Committee have decided to again participate in the British Industries Fair in London in 1936.

APPENDIX XII.

SUBJECT 42.—*Sir Albert Howard's criticism of the Committee's work and policy.*

Secretary's Note.

The attached extract from a lecture delivered by Sir Albert Howard before the Royal Society of Arts on November 22nd 1935, is for consideration.

It is evidently the strong conviction of Sir Albert Howard in the possibilities of the Indore method of making compost, that has been responsible for his sweeping criticism that "The funds of this body are now largely devoted to matters of only secondary importance." Having been out of touch with the Committee for the past four years, Sir Albert does not probably know that out of the 42 lakh rupees so far spent by the Committee on agricultural research no less than 14 lakh rupees have gone to the Indore Institute where the process so highly commended by him has been evolved. A third of the expenditure on agricultural research must, therefore, even according to Sir Albert, not fall in the category of "matters of only secondary importance."

Although his criticism of the past and present research policy of the Committee is merely an expression of an opinion, which may not be shared by most of the agricultural officers and research workers on cotton in India, his long connection

with India and this Committee almost makes his opinion appear as a statement of accepted truth. This is borne out by the fact that a trade member of the Committee, who has seen this criticism, has even suggested that Sir Albert's criticism might be made a reason for reviewing the past activities of the Committee and the future policy—a measure which the Committee thrice undertook on its own accord in the past, once in 1925, then in 1930 and again in 1934.

Though it is true that the Committee has not so far financed any purely soil or manurial research scheme as such, in many of the botanical and physiological schemes of the Committee this aspect of the successful growing of cotton has not altogether been neglected. Moreover, investigations into the physical and chemical composition and other properties of Indian soils, and the problems of their enrichment by fertilisers have been engaging the attention of the Agricultural Departments in India from their very inception. Since the establishment of the Imperial Council of Agricultural Research, increasing attention has also been paid to this subject. A Soil Science Committee and another Fertilisers' Committee have been appointed by the Council. Through the efforts of the Council an Indian Society of Soil Science has also been established. The Council is further financing research into properties of colloidal soil constituents, the organic constituents of Indian soils, and the preparation of cheap synthetic manure from town refuse and waste materials. All the work on soils that is still in progress in the different parts of India shows that Sir Albert's opinion is not the last word on the subject of the improvement of the fertility of Indian soils. When so much work is already in progress, there is perhaps no need for this Committee to take up a work which affects all crops, as so many problems affecting cotton remain to be studied.

P. H. RAMA REDDI.

Extract from a lecture delivered by Sir Albert Howard, C.I.E., M.A. before the Royal Society of Arts on November 22nd, 1935.

* * * *

III. THE ADOPTION OF THE INDORE PROCESS OUTSIDE PLANTATION INDUSTRIES.

The spread of the Indore process among the cultivators of India and other tropical countries is nothing like so spectacular as the extremely rapid progress that has been made in the plantation industries. A little consideration will show why this is so. The plantation industries are highly organised, and the estates are often arranged in large groups controlled by a small London directorate. The consideration of any new process or any new idea likely to benefit these industries is quickly undertaken, and a decision at once leads to action. London is the place where things happen, even in agriculture.

In peasant agriculture there is no similar organisation for taking corporate decisions over wide areas. All that is possible is to interest individuals with local influence, so that a number of centres are firmly established for the demonstration and propaganda of a new principle. In course of time these local centres will exert their influence on the countryside.

A large portion of the money spent on working out the Indore process was contributed by the cultivators of India in the form of a small cess on raw cotton, which cess is administered by a body known as the Indian Central Cotton Committee. The cotton crop is not in the East a plantation industry; it is grown by peasant cultivators or larger individual landowners. The process was originally devised to help these growers to combat a factor which limits the great possibilities of India as a producer of raw cotton. This factor—poor soil aeration after the cotton is sown—operates both on the black cotton soils of the Peninsula and also on the drier areas of the alluvium of North-West India where this crop is grown.

On the black soils no statistical study of the yield of cotton is needed to establish the supreme importance of organic matter in cotton-growing. The results can be seen in every village. The highly-manured lands near the houses yield good crops of fine healthy cotton. On the outlying unmanured fields the cotton plants are, by comparison, dwarfed and miserable specimens. In very wet seasons these differences are accentuated. The limiting factor which is at work is a colloidal condition of the soil, which establishes itself about the middle of the rains in normal years and still earlier in wet seasons. The colloids interfere with aeration, the chemistry of the soil slows down; first root development and then growth suffers. Dressings of compost help to remove this difficulty by improving the permeability of the soil.

On the alluvium of North-West India, a similar limiting factor occurs. Here cotton is grown mostly on irrigation, which causes the soil particles to pack, and in due course the plants, particularly American varieties, show by their growth that they are not quite at home. The anthers often fail to function properly, the plants are unable to set a full crop of seed, the ripening period is unduly prolonged and the fibre lacks strength, quality and life. The cause of this trouble is again poor soil aeration, which appears on these soils to lead to a very mild alkali condition. This, in turn, prevents the cotton crop from absorbing sufficient water from the soil. One of the easiest methods of preventing this packing of the soil particles is to apply dressings of humus.

At the Sakrand Experiment Station, Mr. W. J. Jenkins, the Chief Agricultural Officer in Sind, who was one of the first in India to adopt the Indore method, has already proved that humus is of the greatest value in keeping the alkali condition in check, in maintaining the health of the cotton plant and in increasing the yield of fibre. The Indore process is now well established on all the Government farms in Sind. At Sakrand, for example, no less than 1,250 cartloads of the finished product were prepared in 1934-35 from waste materials such as cotton stalks and crop residues. In a report, dated October 1st, 1935, Mr. Jenkins writes:—

“It is already abundantly evident from the results obtained at Sakrand and other centres in the barrage areas that the scientific utilisation and adequate supply of organic manures must play an important part in the ultimate solution of the problem of maintaining soil fertility and preventing the accumulation of alkali salts.”

The manufacture of compost in Sind has now spread from the Government farms to the demonstration areas, which are cultivated on the share system by the *zamindars* themselves. From the interest shown by these cultivators, it is obvious that it is only a question of time before the Indore system becomes well established in the villages.

Equally interesting results have been obtained by Colonel Cole, C.B., C.M.G., at Coleyana in the Montgomery District of the Punjab, where a compost factory on the lines of the one at the Institute of Plant Industry, Indore, was established in June 1932. At this centre all available wastes are regularly composted. The cotton crop has distinctly benefitted by the dressings of humus; the quality of the fibre has improved; higher prices are being obtained; the irrigation water required is now one-third less than it used to be. The neighbouring estates have all adopted composting, and inquiries about the process are being received from the large cultivators in the neighbourhood.

A promising beginning, therefore, has been made in the removal of the factor which is holding up the yield and depressing the quality of Indian cotton. It is unfortunate for the multitude of small cotton growers in India that the resources of the Indian Central Cotton Committee are not being energetically employed in getting the Indore process taken up all over the country. The funds of this body are now largely devoted to matters of only secondary importance. Large sums are being spent every year on entomological schemes, from which the men who contribute the cotton cess are not likely to derive any great benefit. Far too much attention is being paid to plant breeding and to the distribution of seed. It is true that, on the Government farms and in areas of high fertility, improved varieties of cotton have done remarkably well, but it should be borne in mind that to expect the plant breeder to find a variety which will withstand the consequences of a colloidal condition on the black soils and an incipient alkali phase on the alluvium is to ask the impossible. To achieve any lasting and permanent improvement in the production of cotton in India, the facts must be squarely and honestly faced. The factor limiting growth, namely, poor soil aeration, must first be removed so that the work of the plant breeder can produce its full effect. It is only by the combination of better soil conditions with improved varieties that the cotton growers of India can materially benefit from agricultural research.

Press Communiqué as amended by the Committee.

The criticism by Sir Albert Howard of the work of the Committee in a lecture which he delivered at a meeting of the Royal Society of Arts in November 1935 was considered by the Indian Central Cotton Committee at its half-yearly meeting held on the 13th January 1936. The subject of the lecture was “The manufacture of Humus by the Indore Process,” and in the course of it Sir Albert Howard referred to the success achieved in the conversion of agricultural waste products

into humus by means of a process worked out by him at the Institute of Plant Industry, Indore, and the effects of this humus on the fertility of the soil. He regarded it as unfortunate for the multitude of small cotton growers in India that the resources of the Indian Central Cotton Committee were not being energetically employed in getting the Indore process taken up all over the country and that its funds were being devoted to matters of only secondary importance. Sir Albert Howard further remarked that large sums were being spent annually by the Committee on entomological schemes from which the men who contributed to the cess were not likely to derive any benefit and that far too much attention was being paid to schemes of plant breeding and the distribution of seed. The Indian Central Cotton Committee welcomes all constructive criticism and indeed has, on several occasions, gone out of its way to invite it but Sir Albert Howard does not give a true picture either of the Committee's obligations or work. In the first place it may be mentioned that the original work on compost at the Indore Institute of Plant Industry was itself financed by the Committee which has further continued to finance improvements in the method of making compost since he retired. The importance of soil fertility and compost is fully realised by the Committee and Agricultural Departments alike and Sir Albert Howard's lecture unfortunately betrays a lack of knowledge of what has been done since he left India. The maintenance of soil fertility and the raising of it to a higher level is a fundamental agricultural problem and not a special problem of cotton cultivation. The Indian Central Cotton Committee has always avoided usurping the functions of provincial Departments of Agriculture but has attempted to aid and supplement their work so far as is consistent with the Cotton Cess Act and their financial limitations. The study and demonstration of methods for the maintenance of soil fertility is a fundamental part of the work of Agricultural Departments; it is not peculiar to the cotton problem and the Indian Central Cotton Committee has deliberately concentrated on problems connected with cotton in preference to propaganda on a subject which is common to the agriculture of all crops in all parts of the country. Sir Albert Howard's statement regarding the entomological schemes undertaken by the Committee is a travesty of facts. Two completed entomological schemes financed by the Committee, one in the Bombay Presidency and the other in the United Provinces, now show substantial benefits to the cultivators, and as these results were obtained since Sir Albert Howard's departure from India, they strikingly demonstrate that the material possessed by him regarding the achievements of the Indian Central Cotton Committee and used by him for his lecture was singularly out of date. In 1934 the Committee held a special meeting of its Agricultural Research Sub-Committee to review the position of cotton research. This showed that far from the improvement in the yield and quality of cotton by plant breeding and seed distribution having absorbed an undue proportion of the Committee's funds, this work was of the first importance as it put money into the pockets of the cultivator and good cotton into the mills. Incidentally, varieties of cotton have now been found which tolerate "the colloidal condition on the black soils" and certain types of Sind cotton now do very well in "the incipient alkali phase of the alluvium." The Indian Central Cotton Committee is in complete agreement with Sir Albert Howard's observation "that it is only by the combination of better soil conditions with improved varieties that the cotton growers of India can materially benefit from agricultural research" which indeed is accepted by all agricultural officers. But it does not propose to discontinue its beneficent work in the varietal improvement of cotton through plant breeding and seed distribution schemes or to relax its efforts to find solutions for other problems special to cotton for this is an aspect of agricultural improvement which is its particular responsibility.

APPENDIX XIII.

SUBJECT 44.—*Crop Atlas of India—Varietal Cotton Map.*

Secretary's Note.

In pursuance of a request received from the Director-General of Commercial Intelligence and Statistics for evolving a uniform scheme of trade classification of Indian cotton acceptable to all, the East India Cotton Association asked the Committee in January 1933 to nominate two representatives on a Joint Committee consisting of representatives of the Bombay Millowners' Association, the Bombay Chamber of Commerce, the Indian Merchants' Chamber and the Marwari Chamber of Commerce to examine the question, and evolve a scheme of uniform trade

classification of Indian cotton which would be acceptable to the cotton trade in general. Accordingly, the Committee nominated Sir Purshotamdas Thakurdas and Dr. W. Burns to serve as its representatives on this Joint Committee.

2. This Joint Committee formulated in due course a scheme of trade classification, and the East India Cotton Association in forwarding it to the Director-General of Commercial Intelligence and Statistics in November 1933 remarked that "the precise delimitation of areas recommended may be left to the Directors of Agriculture of Provinces and States. By precise delimitation they mean a description of area by States (where a complete State is included), Districts (where a complete district is included) and Talukas (where a complete district is not included). Units less than a Taluka should not be used." The Association further suggested that Government should prepare a cotton map showing the classifications and districts as recommended by them.

3. At their meetings held in January 1934, the Cotton Forecast Improvement Sub-Committee and the Indian Central Cotton Committee approved the proposed scheme with minor modifications, the question of suitable specific names for the sub-classes under "Oomras" being left to be decided in consultation with the Directors of Agriculture of Bombay, Hyderabad and Central Provinces. This was done in consultation with these officers and the East India Cotton Association, and the classification was sent to the Director-General of Commercial Intelligence and Statistics in July 1934.

4. In the meanwhile, in answer to an enquiry made regarding the classification of S. M. C. States and Satara *Jagirs* under "Westerns" and "Coompta and Uplands" in the new classification, the Director of Agriculture, Bombay, put forward a classification for the cottons grown in the Southern Division of the Presidency, which was slightly different from the one already approved. This proposal was considered at the August 1934 meeting, and it was left to Dr. Burns to discuss the matter with Mr. Haridas Madhavdas and come to an agreement. This was done.

5. In November 1934, this office sent to the East India Cotton Association an exact delimitation of the areas according to the accepted Revised Scheme of Classification. The East India Cotton Association carefully examined it and signified their approval on the 28th March 1935 subject to a few minor changes. The Revised Scheme of Trade Classification as finally approved and sent to the Director-General of Commercial Intelligence and Statistics in April 1935 is given in Enclosure I.

6. The Director-General has since been referring the new scheme to the respective forecast authorities in the provinces and States for criticism or ratification, and to say whether it would be possible to supply figures for the last ten years on the new basis. The objections so far received in answer to this enquiry are the following :—

Punjab.—(Items I (2) and II (2) in the Revised Scheme).

7. As there is no change in the existing classification, the Director-General asked only for the exact delimitations of the *Deshi* and *American* varieties by districts and talukas. The Director of Agriculture has accordingly furnished a statement showing the acreage during 1934-35 under *American* and *Deshi* cottons in each of the districts included in the four cotton growing zones of the Punjab. So far as British Punjab and Punjab States are concerned, there exists, therefore, no difficulty in making an exact delimitation.

North-West Frontier Province.—(Item I (2) in the Revised Scheme).

8. In this case the Director-General wanted to know whether the change from the existing trade name "Bengal-Sind Sind-Punjab" to the proposed name "Bengals-Punjab *Deshi*" was acceptable. In reply, the Revenue and Divisional Commissioner, North-West Frontier Province, has replied that the proposed trade name seems suitable. He has, however, forwarded a representation from a leading cotton merchant in Peshawar requesting that Peshawar cotton should be classed as "Oomras" and allowed to be tendered against Oomras Contract "or at the most Rs. 10 per *candy* below the Oomras standard." This is a matter for the cotton trade and, if approved, this representation may be brought to the notice of the East India Cotton Association without any comment from the Committee. No change is necessary in the Revised Scheme.

Sind.—(Items I (3) and II (1) in the Revised Scheme).

9. As in the case of the Punjab, the Director-General asked for an exact delimitation of *deshi* and *Americans*, and whether the latter was being grown in Khairpur State. The Chief Agricultural Officer has since furnished the necessary information.

Central Provinces and Berar.—(Items III (1) to (6) in the Revised Scheme.)

10. The Economic Botanist for Cotton objects to the sub-dividing of Verum crop under C. P., Berar, and Nimar on the ground that, on analogy with the Oomras crops of these tracts, the Trade would come to look upon Berar Verum, which forms the bulk of Verum crop, as something inferior to C. P. Verum, and thus depress the prices for Berar Verum. The Director of Agriculture agrees with this view so far as C. P. and Berar Verums are concerned. As regards Nimar Verum he considers that it should be shown separately since the bulk of the so-called Nimar Verum is Buri mixed with Verum and Oomras. The Director, Land Records, has agreed to supply information regarding the exact territorial division by districts and talukas if the point raised in the Director of Agriculture's letter is settled. Figures for the past ten years cannot be supplied.

11. The point raised by the Director of Agriculture is for consideration. It would be far easier, and probably advisable too, to remove the misunderstanding, if any, about the quality of Berar Verum than to deny the Trade information about the quantity of Verum cotton grown in Berar, which they have asked for.

Hyderabad.—(Items III (10), IV, IX (2), IX (4) (part) and IX (6) (part) in the Revised Scheme).

12. The only doubtful point in this classification is whether it is absolutely necessary that item IX (2) should be shown separately from item IX (1). The East India Cotton Association is not at all particular about it, and they simply agreed to it because the Director of Agriculture, Hyderabad, wanted it. To the Director-General of Commercial Intelligence and Statistics' enquiry, the Director of Statistics, Hyderabad State, has now confirmed the Director of Agriculture's views, on the ground that Raichur-Kumpta and Upland "is superior to the common Kumpta and Upland."

13. The Director of Statistics appears to be under a misapprehension. Item IX (1) comprises Gadag-1 and Jayawant cottons grown in and around Hubli and Gadag as well as ordinary Kumpta and Upland. Raichur Kumpta and Upland would not therefore lose anything by being lumped with the above cottons. Had there been a separate class for Gadag-1 and Jayawant grown in Bombay Presidency, and Raichur Gadag-1 and Jayawant been lumped with Bombay-grown ordinary Kumpta and Upland, the objection of the Directors would have been reasonable. It is therefore for consideration whether a separate item IX (2) is necessary.

Baroda.—(Items VI (part), VII (part), VIII (1) (part), VIII (2) (part), VIII (3) (part), VIII (4) (part) in the Revised Scheme).

14. It is very satisfactory to note that the Director of Agriculture has simplified the problem of delimitation by assigning the whole of Mehsana district under item VIII (1) and the whole of Amreli district under item VIII (4). The former is in any case necessary, as according to the recommendation of the East India Cotton Association Mehsana district is to be notified as a protected area under the Baroda Cotton Transport Act.

Central India.—(Items I (1) (part), V (1) and (2) in the Revised Scheme).

15. The Director-General asked the Hon'ble the Agent to the Governor-General in Central India to obtain the views of the States concerned on the above classification, and also to ascertain from them whether it would be possible to report "Malvi" separately in their forecasts. The replies received so far are as follows :—

16. *Dhar.*—The proposed classification is inadequate and requests that Cambodia, Banilla and American cottons grown in the State should be shown separately from Malvi *deshi* and Nimar *deshi*. There does not seem to be any objection to the Durbar furnishing these figures separately in Dhar forecasts. These details can, however, be omitted from the All-India forecasts, as separate

figures for Dhar State are not at present shown in them. Dhar State produces only just over 10,000 bales, and what is at most required is a foot-note to "Central India—Others" as follows:—

"Includes.....bales of *Cambodia* grown in Dhar State" provided the production of *Cambodia* is more than 1,000 bales.

17. *Jaora* grows only "Malvi" cotton. No objection to the proposed classification.

18. *Ratlam*.—No objection to the proposed classification.

19. *Sitamau*.—No objection to the proposed classification even though there will be practical difficulties in giving effect to it.

20. *Sailana*.—No objection but would like to have instructions regarding identification of the two varieties.

21. *Jhabua* grows "Malvi," "Boda" and "Gujerati." No objection to the proposed classification.

22. *Barwani* grows no Malvi cotton at present. No objection to the proposed classification.

23. *Alirajpur* grows "Nimadi" and "Gujerathi" cotton, for which figures can be reported separately.

24. *Piploda*.—No objection to the proposal.

25. *Jobat* grows no "Malvi" cotton. No objection to showing under "Central India—Others" the "Berar" cotton grown in the State.

26. *Nimkhera* very rarely grows "Malvi" cotton. No objection to the proposal.

27. *Jaṁnia and Rewa*.—No objection to the proposal.

28. *Khanua*.—No objection to the proposal.

Rajputana.—(Item I (4) in the Revised Scheme).

29. The Director, Institute of Plant Industry, Indore, has written to say that in addition to the Central India States such as Rajputana States as Tonk, Jhalawar and Partabgarh, a considerable part of whose territory lies within the boundaries of Malva proper should also be allowed to report "Malvi" cotton. The Dewan, Partabgarh State, has also vehemently protested against the inclusion of Partabgarh cotton under "Bengals-Rajputana" simply because that State happens to be included in the Rajputana Agency for administrative reasons. Partabgarh, however, grows very little cotton, the total yield being less than 2,000 bales. There is no press, and the cotton grown in Partabgarh would naturally be taken to Mandsaur in Gwalior State which is close to it, and which is a tenderable station under "Central India." As regards Tonk, the Durbar intimate that the Parganas of Sironj, Chhabra, Pirawa and Nimbahera, which are situated in Central India adjoining Gwalior should be transferred to the class "Central India." The trade may not object to the transfer of the first three as they are almost within the Central India area. As Nimbahera is a tenderable station under "Rajputana," the proposed transfer may not be agreeable to the trade. Alwar, Dholpur, Kishangarh, Shahpura and Sirohi Durbars have no objection to the proposal. It is for consideration whether the question of the transfer of Tonk, Partabgarh and Jhalawar to Central India may be referred to the East India Cotton Association.

30. From the foregoing paragraphs it will be seen that so far as the replies received to the enquiry of the Director-General of Commercial Intelligence and Statistics are concerned, the Revised Scheme does not require much change.

Crop Atlas of India—Varietal Cotton Map.

31. This Atlas is now under preparation, but in view of the fact that the Revised Scheme of Trade classification of cotton has not yet been approved of by all Provinces and States, the Commercial Intelligence and Statistics Department has, it appears, suggested that the Varietal Cotton Map might be dropped and the publication of the Atlas, which has been held up, might be expedited without this map. Sir Bryce, on the other hand, considers that such a contingency should be avoided, if possible, and that pending complete agreement of all concerned on the proposals contained in the Revised Scheme, and the collection of necessary statistics for past years, a provisional map should be put in. This suggestion is now for consideration.

32. In the last edition of the map the following major classes or groups are shown separately :—

- (1) Oomras, (2) Dholleras, (3) Coompta-Dharwar, (4) Broach, (5) Bengal-Sind, (6) Westerns and Northern, (7) Cocanadas, (8) Salems including Cambodias, (9) Tinnevellys including also Cambodias, (10) Comillas, Burmas and others and (11) the districts growing Punjab-American.

This means that the sub-classes, viz., Khandesh, Central India, Berar, United Provinces, Rajputana, etc., of Oomras and Bengals are not demarcated in the map, even though the existing trade classification, on the basis of which the map has been prepared, contains these sub-classes. For some of these the trade name of cotton in the classification exactly corresponds with the civil division of the same name, for example, Berar, Central Provinces, Central India, United Provinces. There are, however, others for which there is no such correspondence, for example, Khandesh, Barsi-Nagar, "others."

33. The practical difficulties in immediately preparing a varietal cotton map on the basis of the Revised Scheme of classification and on the lines of the latest map may now be considered with reference to each item in the Revised Scheme.

I. BENGALS.

34. The Punjab, North-West Frontier Province and Sind have already intimated their acceptance of the Revised Scheme. Delhi, Bihar and Orissa, Western Bengal, and Ajmer-Merwara can have no possible objection to the Revised Scheme. The views of the States in Baghelkhand and Bundelkhand agencies have not yet been known. Even if they object to the transfer from Oomras in the existing classification to Bengals in the Revised Scheme, it can be pointed out to them that this change will not affect the prices for their cottons, as their cottons have all along been tenderable only against the Bengals contract. As to Rajputana States a suggestion has been made (*vide* paragraph 29) that Tonk, Partabgarh, and Jhalawar, should be classed under "Central India." Other Rajputana States, excepting Mewar, which grows some Cawnpore-American cotton, are not likely to raise any objection to the Revised Scheme, as the present proposals do not affect their *status quo*.

35. In the circumstances, if a decision can now be taken regarding Partabgarh, Tonk and Jhalawar, there should be no difficulty in showing Bengals as one variety under one colour in the new map. Back statistics are available for all the unit areas of this class.

36. As to the representation of the four sub-classes under Bengals, it may be done by printing the sub-class names in distinctive type in their respective areas demarcated by bold black lines.

II. AMERICANS.

37. Both Sind and the Punjab are agreeable to the proposal and have furnished the necessary information. As Americans and Bengals are grown in the same districts, it follows that in a coloured map it is not possible to show Americans by another colour against a background of Bengals represented by a particular colour. This may, however, be done by hatching the American-growing tract with *slanting parallel lines*.

III. OOMRAS.

38. As in the existing map, Oomras can be treated as one variety under one colour in the new map. So far as the Central Provinces and Berar are concerned the objection raised by the Director of Agriculture (*vide* paragraph 10) need not affect the varietal cotton map. The only point for consideration is whether Verum should be indicated separately. If necessary, this can be done by *black dots* on Oomras background. The Director of Land Records has also agreed to furnish the necessary data.

39. As regards Khandesh Oomras, the Director of Agriculture, Bombay Presidency, may not have objection to the Revised Scheme, even though he has not yet communicated his views. Here again it is for consideration whether Banilla should be indicated separately. If necessary, this can be done by *black circles* on Oomras background. The necessary statistics should also be available.

40. It is not clear whether any difficulty is likely to be met with in the case of Barsi-Nagar Oomras area. Statistics for Ahmednagar, Poona, and Sholapur districts should be readily available for back years. As regards Atpadi Mahal of Aundh State and Manpeta of Satara District it should not be very difficult to make an estimate for back years on the basis of present figures. Since the areas concerned are comparatively small, the validity of the varietal cotton map will not in any way be affected by such estimates.

41. The proposal regarding Hyderabad Oomras is acceptable to Hyderabad authorities and if estimated figures are used for small areas for which back statistics are not available it is hoped there would be no difficulty with regard to Hyderabad Oomras.

42. The sub-classes Berar, C.P., Nimar, Khandesh, Barsi-Nagar, and Hyderabad Oomras can be indicated as suggested in paragraph 36 above.

IV. HYDERABAD GAORANI.

43. Hyderabad Gaorani is not shown separately in the existing map, for the reason that Hyderabad Gaorani is classed under "Oomras" in the existing trade classification. Now that it has been decided to treat this crop as a class by itself in the Revised Scheme, it is for consideration whether it may also be shown in the new map by a separate colour. This is quite possible as the area growing Gaorani is well defined since it is the same as the Gaorani Protected Area.

V. CENTRAL INDIA.

44. Like Hyderabad Gaorani, Central India is treated as a separate class in the Revised Scheme. This crop may therefore be shown in the new map also by a separate colour.

45. Subject to the decision on the points referred to in paragraphs 16 and 29, the area is well defined, and there is no difficulty with regard to back statistics for "Central India" as a whole.

46. The next point for consideration is whether it is necessary to indicate "Malvi" growing areas in Central India. If so, this can be done by *black square blocks* on Central India background.

VI. BROACH AND VII. SURTI.

47. In the existing classification Broach and Surti form one class and consequently in the existing map both areas have the same colour. Pending the receipt of the views, on the Revised Scheme, of the Director of Agriculture, Bombay Presidency, and the States concerned, the Revised Scheme may be taken as the basis for the new varietal map, and in accordance with the general principle hitherto adopted Broach and Surti may be shown separately by two different colours. Both areas are well defined, and there should not be any difficulty in getting back statistics for these areas.

VIII. DHOLLERAS.

48. In the existing classification Dholleras has no sub-divisions, but in the Revised Scheme Dholleras crop is further classified under five heads. Except for the omission from the Revised Scheme of a few talukas of Kaira district, there is no change between the old and new classifications. There should therefore be no difficulty in showing the whole Dholleras area under one colour in the new map.

49. The next question to be considered is whether any indication should be made regarding the five sub-divisions. As a matter of fact these five sub-divisions mean only three distinct territorial divisions, viz., Cutch, Gujarat and Kathiawar. So, if the boundaries of these areas are demarcated as suggested in paragraph 36 the three sub-divisions can easily be represented in the one-colour area of Dholleras. As to the "Short-staple" grown in Gujarat and Kathiawar, it can be indicated by black crosses in those States and talukas where it is grown.

IX. SOUTHERNS.

50. There is no corresponding trade name in the existing classification, but the tract defined in the Revised Scheme as growing Southern roughly corresponds with the Coompta-Dharwar, Northern and Westerns, Coconadas and "Others" (Madras) tracts of the existing classification and varietal map. The main class Southern may therefore be represented by one colour.

51. There are seven sub-divisions under Southern in the Revised Scheme. If the suggestions made in paragraph 13 is accepted, sub-division (2) will be merged in sub-division (1) and there will remain only six sub-divisions, which are well defined areas and can be demarcated as suggested in paragraph 36. Though not stated in the Revised Scheme, Hassan, Shimoga, Kadir and Chitaldrug are the only districts in Mysore State which grow Kumpta and Upland.

X. TINNEVELLIES (INCLUDING KARUNGANNIES).

XI. CAMBODIAS.

XII. SALEMS.

52. In the existing classification all these three varieties are shown separately and hence no change has been made in the Revised Scheme. In the existing varietal map, however, the grouping adopted is (1) Salems including Cambodias and (2) Tinnevellies including also Cambodias. If there is no objection, Cambodia, being the more widely grown cotton, that is, in Madura, Ramnad, Tinnevelly, Salem, Coimbatore, North and South Arcot and Trichinopoly districts, may be shown by a colour, and Tinnevellies (including Karunganni) by horizontal lines, and Salems by vertical lines. If this is done, Mysore and Tumkur districts of Mysore State which grow a little of Cambodia and Salems and no other variety will be coloured for Cambodia and hatched. This change is suggested on account of the growing importance of Cambodia and the fact that though the area under Karunganni in Coimbatore district is about 1½ lakh acres the present method of representation does not bring out that fact.

XIII. COMILLAS.

XIV. BURMAS.

53. In the existing classification these with "others" form one class, and are accordingly represented in the map by one colour. As they have been separated in the Revised Scheme, they may be shown in the map also separately in different colours. There does not appear to be any need to show the sub-classes "Wagale" and "Wagyi," but there should be no objection to doing so provided it is possible.

DENSITY.

54. In the existing map, the importance of a district as a cotton-growing district is indicated by colouring it with a light, medium or heavy shade of the same colour according as the cotton area in the district is 5,000 to 100,000 acres, 100,000 to 500,000 acres or above 500,000 acres. It is for consideration whether the same method should be adopted in the new map.

SUMMARY.

55. The Revised Scheme of Trade classification of cotton as finally approved by the Trade and the Indian Central Cotton Committee given in Enclosure I is now being examined by provincial and State authorities. Of the criticisms received so far, those regarding Central Provinces (paragraph 10), Hyderabad (paragraph 13), Dhar (paragraph 16), Partabgarh, Jhalawar and Tonk (paragraph 29) alone require examination. Subject to a decision on these and pending receipt of replies from the rest, the preparation of a provisional varietal cotton map on the basis of the Revised Scheme can immediately be taken up. It is proposed that in such a map—

- (1) cotton-growing areas of India should be divided into tracts growing indigenous or ordinary local or the more important cottons broadly classified under Bengals, Oomras, Gaorani, Central India, Broach, Surti, Dholleras, Southern, Cambodia, Comillas, and Burmas, each being represented by a distinctive colour, and shaded, if necessary, to show the extent of cultivation,
- (2) sub-classes of the cottons mentioned in (1) need only be demarcated by boundaries and named, and
- (3) on the respective backgrounds provided by the above cottons, varieties such as Americans, Verum, Banilla, Malvi, Short-staple, Salems and Tinnevellys grown in the same tracts should be indicated by the super-imposition of lines, dots, circles, etc. In doing so, each line or dot or circle may, if necessary, be made to represent a particular extent of area, as well.

A communication has since been received from the Director-General intimating the acceptance of the Revised Scheme by the Banswara State of Rajputana. Mewar State of Rajputana, however, objects to being included under "Bengals-Rajputana *deshi*" on the ground that Mewar cotton is, though not equal to Oomras, comparatively superior to Bengals on account of the introduction of Cawnpore-American No. 9 cotton into the State. The State therefore requests that "Mewari Oomras" be shown as a separate item under "III-Oomras." It might be mentioned that the State made a similar request in 1933 to the Trade Classification Sub-Committee referred to in paragraph I, and that Sub-Committee did not accede to it.

P. H. RAMA REDDI.

ENCLOSURE I.

REVISED SCHEME OF TRADE CLASSIFICATION OF INDIAN COTTON.

<i>Trade Descriptions.</i>	<i>Tracts to be included.</i>
I. BENGALS—	
(1) U. P. <i>Deshi</i>	United Provinces (including Rampur State), Delhi, Bihar and Orissa, Baghelkhand and Bundelkhand agencies of Central India, and Western Bengal (Bankura and Midnapore districts).
(2) Punjab <i>Deshi</i>	Punjab (including Indian States except Khairpur State) and North-West Frontier Province.
(3) Sind <i>Deshi</i>	Sind (including Khairpur State).
(4) Rajputana <i>Deshi</i>	Ajmer-Merwara and Rajputana States (excluding Palanpur State).
II. AMERICANS—	
(1) Sind-American	Sind.
(2) Punjab-American	Punjab.
III. OOMRAS—	
(1) Berar Oomras	Berar.
(2) C. P. Oomras	Central Provinces (excluding Nimar district).
(3) Nimar Oomras	Nimar district of Central Provinces.
(4) Berar Verum	Berar.
(5) C. P. Verum	Central Provinces (excluding Nimar district).
(6) Nimar Verum	Nimar district of Central Provinces.
(7) Khandesh Oomras	Nasik, East Khandesh and West Khandesh (excluding Nawapur Taluka) districts.
(8) Khandesh Banilla	East and West Khandesh districts.
(9) Barsi-Nagar Oomras	Ahmednagar, Poona and Sholapur districts; Phaltan State; Atpadi Mahal of Aundh State; and Manpeta of Satara district.
(10) Hyderabad Oomras	Aurangabad, Bir (excluding Mominabad Taluka), Parbhani, Adilabad (excluding Nirmal Taluka), Osmanabad (excluding portion included under "Hyderabad Gaorani") and Nizamabad districts; Akalkot State.
IV. HYDERABAD-GAORANI..	The Hyderabad-Gaorani Protected Area of Hyderabad State comprising Nanded, Bidar and part of Osmanabad districts; Nirmal and Mominabad Talukas.
V. CENTRAL INDIA.—	
(1) Malvi	} Gwalior, Indore and States in Bhopal, Malwa and Southern States Agencies.
(2) Central India—Others	

*Trade Descriptions.**Tracts to be included.*

- VI. BROACH Kaira, Broach (excluding Olpad and Ankleshwar Talukas) and Panch Mahal districts; States in Rewa Kantha Agency (excluding Rajpipla), Cambay State and Baroda district.
- VII. SURTI Olpad and Ankleshwar Talukas; Surat district; Nawapur Taluka; Rajpipla State; Surat States and Navsari district.
- VIII. DHOLLERAS—
- (1) Gujerat-Dholleras. “Wagad,” “Lalio” and other staple cotton grown in Ahmedabad district, Palanpur State, Mehsana district, States in Mahi-Kantha and Banas Kantha Agencies.
 - (2) Gujerat—Short staple Short-staple cotton grown in the above tract.
 - (3) Kathiawar→Dholleras “Wagad,” “Kala” and other staple cottons grown in the Kathiawar States including Amreli district.
 - (4) Kathiawar—Short staple.. . . . “Mathia” and other short-staple cottons grown in the Kathiawar States.
 - (5) Cutch Cutch State.
- IX. SOUTHERNS—
- (1) Kumpta and Upland .. . Dharwar, Belgaum and Satara (excluding Manpeta) districts; Satara Jagirs (excluding Phaltan State and Atpadi Taluka of Aundh State); S. M. C. States; Mysore State.
 - (2) Kumpta and Upland (Raichur) Raichur protected area.
 - (3) Bijapur and Bagalkot, Jowari Bijapur district.
 - (4) Westerns Bellary, Anantapur and Cuddappah districts, Raichur district (excluding the Raichur protected area) and Gulbarga district.
 - (5) White and Red Northern. Kurnool district (including Banganapalle State).
 - (6) Warangal and Coconadas.. Nellore, Guntur, Kistna and Godavari districts; Warangal, Karimnagar, Nalgonda, Mahboobnagar, Atrafibalda and Medak districts.
 - (7) Chinnapathi (short-staple). Ganjam and Vizagapatam districts.
- X. TINNEVELLIES (INCLUDING KARUNGANNIES)
- XI. CAMBODIAS
- XII. SALEMS
- XIII. COMILLAS
- XIV. BURMAS.—
- (1) Wagale
 - (2) Wagyi
- } Burma.



Summary Proceedings

of the

Thirty-second Meeting of the
Indian Central Cotton
Committee, Bombay,

held on the

13th and 14th January 1936.

INDIAN CENTRAL COTTON COMMITTEE.

32ND MEETING—13TH AND 14TH JANUARY 1936.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS.

AGENDA

1. Presidential address	5
2. Confirmation of Minutes	8
3. Retirement of members by rotation	8
4. Appointment of Vice-President and Sub-Committees	8
5. Representation of the Indian Central Cotton Committee on the International Federation of Master Cotton Spinners' and Manufacturers' Associations	12
6. Establishment of regulated cotton markets	12
7. Bombay Cotton Control Act, 1935	13
8. The Cotton Ginning and Pressing Factories Act— (a) Bombay Amendment Bill.	
(b) Central Provinces Amendment Bill	13
9. Report on the fumigation of American cotton	15
10. Cotton Options—Proposed additions and amendments to the By-laws of the East India Cotton Association, Ltd.—Reference from the last meeting of the Committee	15
11. Half-yearly report of the Publicity and Propaganda Officer	18
12. Provincial Cotton Committees—Proceedings of the Sind Cotton Committee	18
13. Summary of Proceedings of the Local Sub-Committee	19
14. Technological Research—Progress Report of the Director, Technological Laboratory	19
15. Technological Research—Report of the Technological Research Sub-Committee	19
16. Report of the Research Students' Selection Sub-Committee	21
17. Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton	22
18. Mixing of old cotton and mill droppings, etc., in new crop cotton at Dhulia, Bombay Presidency	22
19. Report of the Agricultural Research Sub-Committee	23
20. Punjab Pink and Spotted Boll-worm Scheme—Reply of the Director of Agriculture, Punjab, on the observations made by the Committee at its last meeting	23
21. Bikaner Gang Canal Scheme—Extension of	23
22. Punjab Cotton Failure Research Scheme—Revised proposals for	24
23. Punjab Cotton White Fly Research Scheme—Proposed extension of	24
24. Report of the Cotton Forecast Improvement Sub-Committee	25
25. Post-mortem examination of cotton forecasts of 1934-35 season	25
26. Reports of enquiries into the village consumption of cotton	25
27. Cotton Crop Forecast Improvement Scheme in the Bombay Presidency—Proposed permanent retention of the staff or extension of scheme for three years	25



	PAGE.
28. Report of the Standing Finance Sub-Committee	26
(a) Balance Sheet.	
(b) Financial Statement.	
(c) Revised Estimates, 1935-36.	
(d) Budget, 1936-37.	
(e) Auditors' fees.	
29. Lancashire Indian Cotton Committee—Work of—Note by Mr. H. C. Short, Cotton Commissioner	26
30. Railway freight rates on cotton—Reference from the last meeting of the Committee	28
31. Formation of a compact block of long staple cotton in Sind—Letter from the Bombay Government	28
32. Khandesh (Banilla) Seed Distribution Scheme—Proposed extension of	29
33. Form of Abstract Proceedings of meetings of the Committee	30
34. Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee	30
35. Madras Fodder Cholam Scheme—Proposed further extension of	30
36. Broadcasting in the mornings of commercial news on cotton—Letter from the Government of India	30
37. Training grant of Mr. Taskhir Ahmad	30
38. Gujarat Boll-worm Clean-up Scheme—Measures for the eradication of the Boll-worm pest in Gujarat—Letter from the Government of Bombay	30
39. Proposed amendment in Form A prescribed under Rule 16 of the Indian Cotton Cess Rules, 1923	31
40. Hyderabad Pink and Spotted Boll-worm Scheme—Proposed extension of	31
41. Hyderabad Seed Distribution and Extension Scheme—Proposed extension of	31
42. Sir Albert Howard's criticism of the Committee's work and policy	31
43. Fall in the exports of Indian cotton to China	31
44. Crop Atlas of India—Varietal Cotton Map	32
45. Report of the Sub-Committee appointed to work out details for holding a Conference of Scientific Workers	32
Resolutions passed by the Committee	36

APPENDICES.

I. Bombay Cotton Control Act, 1935	42
II. Cotton Ginning and Pressing Factories Act	45
III. Half-yearly report of the Publicity and Propaganda Officer	52
IV. Summary of Proceedings of the Local Sub-Committee	57
V. Summary of the progress report of the Director, Technological Laboratory	58
VI. Report of the Technological Research Sub-Committee	66
VII. Report of the Special Sub-Committee to consider the question of a wider market for Indian cotton	67
VIII. Report of the Agricultural Research Sub-Committee	68
IX. Report of the Cotton Forecast Improvement Sub-Committee	90
X. Report of the Standing Finance Sub-Committee	91
XI. Work of the Lancashire Indian Cotton Committee—Note by Mr. H. C. Short, Cotton Commissioner	94
XII. Sir Albert Howard's criticism of the Committee's work and policy	94
XIII. Crop Atlas of India—Varietal Cotton Map	97

Present.

- Sir Bryce C. Burt, Kt., C.I.E., M.B.E., I.A.S. (*President*), Acting Vice-Chairman, Imperial Council of Agricultural Research,
- Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E. (*Vice-President*), Representative of the East India Cotton Association, Bombay,
- Dr. F. J. F. Shaw, D.Sc., A.R.C.S., Agricultural Expert, Imperial Council of Agricultural Research,
- M. R. Ry. Rao Bahadur D. Ananda Rao Garu, I.A.S., Director of Agriculture, Representative of the Agricultural Department, Madras Presidency,
- Dr. W. Burns, D.Sc., I.A.S., Director of Agriculture, Representative of the Agricultural Department, Bombay Presidency,
- Mr. J. H. Ritchie, I.A.S., Director of Agriculture, Representative of the Agricultural Department, United Provinces,
- Mr. H. R. Stewart, I.A.S., Director of Agriculture, Representative of the Agricultural Department, Punjab,
- Mr. J. C. McDougall, I.A.S., Offg. Director of Agriculture, Representative of the Agricultural Department, Central Provinces,
- Mr. S. D. Saklatvala, M.L.C., Representative of the Bombay Mill-owners' Association,
- Mr. A. A. Sarantides, Representative of the Bombay Chamber of Commerce,
- Chunilal B. Mehta, Esq., Representative of the Indian Merchants' Chamber, Bombay,
- G. C. R. Coleridge, Esq., Representative of the Karachi Chamber of Commerce,
- Seth Sakarlal Balabhai, M.L.C., Representative of the Ahmedabad Millowners' Association,
- J. Vonesch, Esq., Representative of the Tuticorin Chamber of Commerce,
- W. Roberts, Esq., C.I.E., Representative of the Empire Cotton Growing Corporation,
- Y. G. Deshpande, Esq., Commercial Representative, Central Provinces.
- Rao Bahadur G. R. Kothare, M.L.C., Commercial Representative, Central Provinces,
- Khan Bahadur Sardar Habibullah, M.L.C., Commercial Representative, Punjab,
- Rao Bahadur M. G. Despande, C.B.E., Co-operative Banking Representative,
- M. R. Ry. Rao Bahadur B. P. Sessa Reddi Garu, M.L.C., Representative of cotton growers, Madras,
- Sardar Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of cotton growers, Bombay Presidency,
- Rao Bahadur C. S. Shirahatti, Representative of cotton growers, Bombay Presidency,
- Rai Bahadur Lala Anand Sarup, M.L.C., Representative of cotton growers, United Provinces,

- Jardar Sampuran Singh, M.L.C., Representative of cotton growers, Punjab,
- Mian Nurullah, M.L.C., Representative of cotton growers, Punjab,
- N. M. Deshmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
- J. B. Desmukh, Esq., Representative of cotton growers, Central Provinces and Berar,
- Nizam-ud-Din Hyder, Esq., Director of Agriculture, Representative of the Hyderabad State,
- R. G. Allan, Esq., C.I.E., Director of Agriculture, Representative of the Baroda State,
- H. H. Pandya, Esq., Director of Agriculture, Representative of the Gwalior State,
- F. K. Jackson, Esq., Director, Institute of Plant Industry, Indore, Representative of Rajputana and Central India States,
- Rao Bahadur S. S. Salimath, Deputy Director of Agriculture, Southern Division, Dharwar.
- Dr. V. K. Badami, Ph.D., Representative of the Mysore State.
- W. J. Jenkins, Esq., I.A.S., Chief Agricultural Officer in Sind.
- Seth Isserdas Varindmal, Representative of the Indian Merchants' Association, Karachi.
- P. B. Richards, Esq., I.A.S., Entomologist to Government, United Provinces,
- Khan Bahadur Nawab Fazl-i-Ali Khan, Chairman, District Board and President, Central Co-operative Bank, Ltd., Gujrat, Punjab,
- Khan Saheb Farrukhbeg Sadikalibeg Mirza, Nawabshah, Sind,
- Lala Shri Ram, Representative of Cotton Millowners of Delhi.
- Chellaram Shewaram, Esq., Representative of the Karachi Cotton Association, Ltd.
- The Secretary (P. H. Rama Reddi, Esq., I.A.S.),
- The Director, Technological Laboratory (Dr. Nazir Ahmad), and
- The Publicity Officer (R. D. Mihra, Esq.).

By invitation.

- Sir Richard H. Jackson, Chairman, Lancashire Indian Cotton Committee,
- The Hon'ble Khan Bahadur D. B. Cooper, J.P., Member for Revenue and Finance, Government of Bombay,
- The Hon'ble Dewan Bahadur S. T. Kambli, J.P., Minister for Agriculture, Government of Bombay,
- C. G. Freke, Esq., I.C.S., Secretary to the Government of Bombay, Finance Department,
- N. C. Mehta, Esq., I.C.S., Secretary, Imperial Council of Agricultural Research,
- N. Brodie, Esq., Director, Industrial Intelligence and Research Bureau, Indian Stores Department,
- W. D. M. Clarke, Esq., His Majesty's Trade Commissioner at Bombay,
- H. C. Short, Esq., Cotton Commissioner, Lancashire Indian Cotton Committee,

C. B. Bramble, Esq., M.L.C., C/o Messrs. Drennan & Co., Bombay,
 E. Neuenhofer, Esq., C/o Messrs. Volkart Bros., Bombay,
 Mazhar Husain, Esq., Director of Statistics, H. E. H. the Nizam's
 Government, Hyderabad, Deccan,
 R. G. Saraiya, Esq., C/o Messrs. Narandas Rajaram & Co., Bombay,
 Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,
 J. B. Hutchinson, Esq., Geneticist and Botanist, Institute of Plant
 Industry, Indore,
 Prof. R. H. Dastur, Plant Physiologist, Agricultural College, Lyallpur,
 Mohammad Afzal, Esq., Cotton Research Botanist, Lyallpur,
 K. V. Joshi, Esq., Deputy Director of Agriculture, Nasik,
 S. V. Shevde, Cotton Superintendent, Banilla Cotton Seed Distribu-
 tion and Extension Scheme, Amalner,
 G. S. Kurpad, Esq., Deputy Director of Agriculture, H. E. H. the
 Nizam's Dominions, Raichur,
 G. R. Ambekar, Esq., Provincial Officer in Charge, Cotton Forecast
 Improvement Scheme, Bombay.

Letters and telegrams were received from the following members
 regretting their inability to attend the meeting :—

F. D. Odell, Esq., I.A.S., Deputy Director of Agriculture, Represen-
 tative of the Agricultural Department, Burma,
 The Director-General of Commercial Intelligence and Statistics,
 J. Tinker, Esq., Representative of the Upper India Chamber of
 Commerce,
 J. Nuttal, Esq., Commercial Representative, Madras,
 Akhil Bandhu Guha, Esq., Commercial Representative, Bengal,
 K. S. Ramaswami Gounder, Esq., Representative of cotton growers,
 Madras,
 D. N. Mahta, Esq., Economic Botanist for Cotton, Central Provinces,
 M. R. Ry. V. Ramanatha Ayyar, Avargal, Cotton Specialist,
 Coimbatore.

President's Speech.

GENTLEMEN,

It is my privilege to welcome you to the thirty-second meeting of
 the Indian Central Cotton Committee.

We miss the familiar figure in the Presidential Chair of Dewan
 Bahadur Sir T. Vijayaraghavacharya who, for six years, conducted
 our meetings in his own inimitable manner and to whose services to
 the Committee you testified in such unmistakable terms at our last
 meeting. You will therefore be gratified to hear that though Sir
 Vijayaraghavacharya will no longer preside at our meetings, we shall
 not be deprived of the benefit of his wide knowledge and experience
 as the Government of India have appointed him an additional member
 of the Committee.

You will desire me to extend a most cordial welcome to our dis-
 tinguished guests, especially to Sir Richard Jackson, Chairman of
 the Lancashire Indian Cotton Committee, who, for a second time, is

making a tour of this country on behalf of that body. We are all familiar with the very valuable work which the Lancashire Indian Cotton Committee is doing to popularise Indian cottons in Lancashire and I am not betraying any secret in saying that much of the credit for the achievements of that Committee is due to Sir Richard Jackson himself. His second visit to this country within two years is ample testimony of his desire to further the interests of India. We, on our part, hope that he will find that considerable further improvement has been effected in the quality of Indian cotton since his last visit and that the task of his Committee has been correspondingly lightened. As we hope to hear from Sir Richard a good deal about the work of his Committee, I will only add that not only have the exports of Indian cotton to England and the consumption of Indian cotton in Lancashire shown an encouraging increase, but there are definite indications that the demand for our cottons is on a broader basis as a result of the Lancashire Committee's efforts to find new users, and new uses, for Indian cotton. We are also glad to welcome the Hon'ble Khan Bahadur Cooper, Finance Member, the Hon'ble Dewan Bahadur S. T. Kambli, Minister for Agriculture, and Mr. Freke, Finance Secretary to the Bombay Government. To Mr. H. C. Short, the Lancashire Indian Cotton Committee's Commissioner in India, Mr. N. Brodie, Director of the Industrial Research and Intelligence Bureau of the Government of India, Mr. W. D. M. Clarke, His Majesty's Trade Commissioner at Bombay, and Mr. N. C. Mehta, Secretary of the Imperial Council of Agricultural Research, I also extend a hearty welcome.

We were all gratified to learn that our first President Mr. S. Milligan, has recently been honoured with the title of C.B.E. We offer him our heartiest congratulations. Though it is over a decade since he retired from India, he continues to take a keen interest in our work.

We also offer our hearty congratulations to Mr. R. G. Allan on whom the honour of C.I.E. has just been conferred, and to Khan Bahadur Afzal Husain who is in charge of three of our research schemes.

It is also a pleasure to congratulate Mr. Chunilal B. Mehta on his appointment to the high office of Sheriff of Bombay for we all know that he will fill his new office with distinction.

Turning now to our agenda, we must all feel gratified that the Bombay Cotton Control Act, which has for its object the elimination of Goghari cotton from the important long staple cotton areas of the Bombay Presidency, has now passed into law. This Bill was before us at our last meeting and the celerity with which it passed through all stages in the Legislature shows that the need for it was thoroughly appreciated by the public. This piece of legislation will undoubtedly go a long way towards improving the quality of the cotton of the Surat tract. It is a necessary corollary to the intensive work of the Bombay Agricultural Department in that area which the Committee has financed to a considerable extent.

Considerable progress has been made in another very important matter, viz., the suppression of malpractices in cotton ginning and pressing factories through a system of licenses. Both the Bombay and the Central Provinces Governments have introduced, in their respective Legislative Councils, Bills to amend the Cotton Ginning and Pressing Factories Act in which provision has been made for the

imposition of fines and, where necessary, the suspension or cancellation of the licenses of factories found guilty of malpractices. There is abundant evidence that further action in this direction was urgently needed. The Bills, in the form recommended by the Committee, impose no hardship on the honest trader or factory owner. The Bombay Council has referred the Bill to a Select Committee, whilst the Central Provinces Bill has been circulated for eliciting public opinion. In the interests of Indian cotton we trust that both measures will shortly take their place on the statute book.

The subject of "Cotton Options" again figures on our agenda in accordance with the decision arrived at at our last meeting. I will not attempt to anticipate the discussion on this most important subject, but I have no doubt that the question has engaged your close attention since we last met and that we shall now be able to reach definite conclusions.

You will remember that at our meeting in February 1935 we came to the conclusion that complaints arising abroad regarding faults in Indian cotton were occasionally exaggerated because India was not adequately represented at important International Cotton Congresses. It was decided that the Committee should endeavour to arrange for better Indian representation on the International Federation of Master Cotton Spinners' and Manufacturers' Associations, as we were convinced that at all such discussions India should be represented by qualified and properly instructed representatives who could speak with knowledge and authority on present-day conditions. This will now be possible as the Indian Central Cotton Committee has been made an Associate Member of the International Federation.

Besides the budgets with which our cold weather meetings are usually associated, you will be called upon to consider the reports of the Standing Finance Sub-Committee, the Agricultural Research Sub-Committee, the Technological Research Sub-Committee, the Cotton Forecast Improvement Sub-Committee and the Special Sub-Committee on Wider Markets for Indian cotton. These reports are the outcome of solid work by the members of the various Sub-Committees and I am sure you will desire me to thank them warmly for the very valuable assistance they have rendered us in the detailed examination of the subjects remitted to them. In particular, our Finance and Local Sub-Committees, which consist mainly of Bombay members, have again given freely of their time and abilities to further our work.

Gentlemen, I shall not delay you any longer from the work before you."

Before taking up the subjects on the agenda the meeting carried with acclamation a resolution moved by the *Vice-President* expressing great satisfaction at the conferment of a Knighthood on the acting President and tendering cordial congratulations to Sir Bryce Burt on the high honour conferred on him. The mover and those who spoke in support of his resolution paid tributes to the varied services of Sir Bryce Burt to the Committee.

SUBJECT 2.—Confirmation of Minutes.

The Minutes of the previous meeting were then confirmed.

SUBJECT 3.—Retirement of members by rotation.

The Secretary's note relating to retirement of members by rotation was recorded.

SUBJECT 4.—Appointment of Vice-President and Sub-Committees.

Sir Purshotamdas Thakurdas was re-elected Vice-President for the year 1936–37 and the following Sub-Committees were formed :—

*Standing Finance Sub-Committee for the Financial
Year 1936–37.*

The President (ex-officio),
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. J. Vonesch,
Mr. Chunilal B. Mehta,
Mr. G. C. R. Coleridge,
Mr. A. A. Sarantides,
Rao Bahadur G. R. Kothare, and
Sardar Rao Bahadur Bhimbhai Ranchodji Naik.

Cotton Ginning and Pressing Factories Sub-Committee.

Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. A. A. Sarantides,
Mr. J. Vonesch,
Mr. Chunilal B. Mehta,
Mr. G. C. R. Coleridge,
Mr. J. Nuttall,
Mr. W. Roberts,
Mr. J. Tinker,
Mr. Y. G. Deshpande,
The Co-operative Representative—Rao Bahadur M. G. Deshpande
(ex-officio),
Mr. Chellaram Shewaram (co-opted member).

The Local Sub-Committee.

The President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,

Mr. J. Vonesch,
Mr. A. A. Sarantides,
Mr. Chunilal B. Mehta,
Mr. G. C. R. Coleridge,
Rao Bahadur G. R. Kothare.

The Agricultural Research Sub-Committee.

- I. The President (ex-officio),
- II. The Vice-President (ex-officio),
- III. The Director, Institute of Plant Industry, Indore—Mr. F. K. Jackson (ex-officio),
- IV. The Co-operative Representative—Rao Bahadur M. G. Deshpande (ex-officio),
- V. Cotton Growers' Representatives—
Mr. W. Roberts,
Mr. N. M. Deshmukh,
- VI. Cotton Trade Representatives—
Rao Bahadur G. R. Kothare,
Mr. Chunilal B. Mehta,
- VII. Agricultural Officers—
Dr. W. Burns,
Mr. J. H. Ritchie,
Mr. H. R. Stewart,
Mr. V. Ramanatha Ayyar,
Dr. F. J. F. Shaw,
Mr. R. G. Allan,
Mr. W. J. Jenkins,
Rao Bahadur D. Ananda Rao Garu.
Mr. D. N. Mahta,
Mr. P. B. Richards,
Mr. J. C. McDougall,
Mr. Nizam-ud-Din Hyder,
Mr. H. H. Pandya,
Dr. V. K. Badami,
- VIII. Additional Members—
Mr. Mohammad Afzal,
Rai Saheb Kalidas Sawhney,
Mr. J. B. Hutchinson,
Mian Nurullah, and
Mr. Chellaram Shewaram,
- IX. The Secretary.

The Technological Research Sub-Committee.

The President (ex-officio),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. A. A. Sarantides,
 Dr. W. Burns,
 Dr. F. J. F. Shaw,
 Mr. H. R. Stewart,
 Mr. Chunilal B. Mehta,
 Mr. Y. G. Deshpande,
 Seth Sakarlal Balabhai,
 Rao Bahadur D. Ananda Rao Garu,
 Lala Shri Ram,
 Mr. J. Tinker,
 Mr. N. Brodie,
 Dr. Nazir Ahmad,

Co-opted Members:—Two representatives each from—

The Bombay Millowners' Association,
 The Ahmedabad Millowners' Association and
 The East India Cotton Association, Bombay, and
 One representative from the Karachi Cotton Association, Ltd.

The Research Students' Selection Sub-Committee.

The President,
 The Vice-President,
 Dr. F. J. F. Shaw,
 Dr. W. Burns,
 Mr. P. B. Richards,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. W. J. Jenkins,
 Mr. F. K. Jackson,
 Mr. J. C. McDougall,
 Mr. H. H. Pandya,
 Mr. R. G. Allan,
 Mr. Nizam-ud-Din Hyder,
 Dr. V. K. Badami and
 Dr. Nazir Ahmad

The Cotton Forecast Improvement Sub-Committee.

The President,
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 The Director of Agriculture, Punjab,
 The Director of Agriculture, Madras,
 The Director of Agriculture, United Provinces,
 The Director of Agriculture, Central Provinces,
 The Director of Agriculture, Baroda,
 The Director of Agriculture, H. E. H. the Nizam's Government,
 The Chief Agricultural Officer in Sind,
 The Director of Statistics, H. E. H. the Nizam's Government,
 The Director of Land Records, Central Provinces and Berar,
 The Deputy Director of Statistics,
 The Statistical Officer, Madras Board of Revenue,
 The Agricultural Expert to the Imperial Council of Agricultural
 Research, and
 Trade representative—Mr. J. Vonesch.

The Special Sub-Committee to consider the question of a wider market for Indian cotton.

The President,
 The Vice-President,
 Dr. F. J. F. Shaw,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Dr. W. Burns,
 Mr. W. J. Jenkins,
 Mr. Nizam-ud-Din Hyder.
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Chunilal B. Mehta,
 Mr. V. G. Deshpande,
 Khan Bahadur Sardar Habibullah,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Rao Bahadur D. Anarda Rao Garu,
 Mr. J. C. McDougall,
 Mr. R. G. Saraiya,
 Mr. Kasturbhai Lalbhai,
 Seth Isserdas Varindmal.

} Co-opted Members.

The Malpractices Sub-Committee was agreed to be discontinued.

SUBJECT 5.—Representation of the Indian Central Cotton Committee on the International Federation of Master Cotton Spinners' and Manufacturers' Associations.

The President announced that a satisfactory arrangement had been arrived at with the International Federation with which the Committee was now definitely associated as an Associate Member. The Committee would receive the agenda and proceedings of the Federation meetings and would thus have an opportunity of properly instructing its representatives whenever questions concerning Indian cotton came up for consideration. This arrangement should ensure that India's case would not go by default in future.

SUBJECT 6.—Establishment of regulated cotton markets.

Only one point was discussed under this head, namely, that although the Central Provinces Cotton Market Act had been passed in 1932 out of about 17 important markets only one appeared to have been notified under the new Act.

Three chief reasons were given to explain this circumstance.

1. The establishment of such markets had been left entirely to the initiative of local bodies or the growers of cotton under the Act but as no application had been received from either, Section 4 of the Act was being amended to enable Government to establish such markets on their own initiative. The failure to establish markets was also due to a certain extent to apathy among some local bodies and in other cases to their active opposition.

2. Owing to the continuous failure of the cotton crop during the last four years, the income from cotton markets had been very much reduced.

3. It had been reported to the Government of the Central Provinces that the volume of cotton dealt in some places in the province was not large enough to justify the formation of separate markets for cotton alone and it had accordingly been proposed that an enabling amendment should be made in the Central Provinces Cotton Markets Act to provide for joint cotton and grain markets wherever conditions were not favourable for the establishment of separate cotton and grain markets. This question was under the consideration of Government.

The Committee expressed the hope that if any substantial alteration was being proposed in the Central Provinces Cotton Market rules the Committee would be given an opportunity of expressing its opinion.

The Director of Agriculture, Central Provinces, said he would bring the point to the notice of his Government.

It was noted that under the Madras Commercial Crops Market Act a cotton market had been started at Tirupur as an experiment but as soon as more experience was gained, the Act would be extended to other areas.

SUBJECT 7.—*Bombay Cotton Control Act, 1935.**

It was resolved that

RESOLUTION—“The Indian Central Cotton Committee notes with satisfaction the expeditious manner in which the Bombay Cotton Control Act was passed by the Legislative Council. It is confident that this piece of legislation will go a long way towards improving the quality of cotton of the Surat tract where Goghari [has been spreading to an alarming extent and that the benefits [to the grower expected from the Act will soon be realised.”

Speakers commented on the easy and pleasant passage of the Bill through the Legislative Council and the hope was expressed that the working of the Act would be equally peaceful.

This was the second instance, the first one being in Madras, of a measure taken up at the instance of the Indian Central Cotton Committee to restrict the growing of a particular variety of cotton in the interests of the majority of cultivators.

When some members of the Bombay Legislative Council expressed the view that this Act curtailed the liberty of the agriculturists it was explained that the liberty of a few growers had been taken away in their interests and of the general body of cultivators. If the Act did any harm to anybody it was only to those ginowners who mixed the two cottons—Goghari and Navsari—and not the cultivators.

SUBJECT 8.—*The Cotton Ginning and Pressing Factories Act.†*

(a) *Bombay Amendment Bill.*

(b) *Central Provinces Amendment Bill.*

Discussion ranged over three kinds of malpractices which these Bills proposed to tackle, namely, watering, excessive seed and the presence of foreign substances. The difference between the two Bills with regard to mixing also came under examination.

The essential difference was stated to be that under the Bombay Bill mixing could be prohibited only in prescribed areas whereas under the Central Provinces Bill mixing was to be permitted anywhere provided a bale containing mixed cotton was marked as such. On this point the Local Sub-Committee had suggested that the Central Provinces Government should follow the Bombay Bill.

On behalf of the Central Provinces measure it was explained that in its present form it had been circulated for opinion but that considerable changes would presumably be made in it at the time of final drafting.

The provision in the Central Provinces Bill relating to mixing and also absence of definition of mixing were severely commented on. It was declared by more speakers to be absurd that an Act which was made to prevent mixing should allow mixing provided that fact was indicated on the outside of the bale. An Act which was intended to prevent mixing must prevent it no matter what the difficulties were.

* Appendix I (page 42).

† Appendix II (page 45).

Some of the difficulties of gauging the extent to which mixing took place were dwelt upon by others. No scientific method had been evolved so far to determine the exact proportion of mixtures in any given sample. Cotton consisted of innumerable varieties and even in pure cotton of the same variety there were differences in price of Rs. 10, 20 and 30 per *khandy*.

As regards fixing the responsibility for mixtures it was urged that as long as no special area had been reserved for growing a particular kind of cotton there should be no penalty for mixtures. In the Central Provinces every cotton field contained some admixture which was not intentional. The cotton which went to the bazar however always contained mixtures of several kinds of cotton and owing to the wide spread of verum seed such cotton was a mixture of verum and old types. Merchants, therefore, found it very difficult to distinguish and separate one cotton from another in their bazar purchases. The factory owner and merchants should not therefore be penalised in these circumstances and unless the mixer of the cotton were traced, which would be very difficult, innocent parties might be penalised. A Bill prohibiting mixtures in present circumstances would kill the trade. It was therefore suggested that such a clause should be applied only to particular areas reserved for particular kinds of cotton.

As regards watering, except one speaker all were agreed that the cultivator was not responsible for this evil. If watering accidentally took place, an allowance was made by the merchant there and then. It was mentioned that one firm at Nagpur bought from cultivators hundreds of cart-loads of *kapas* for its mills but scarcely ever was *kapas* found to be watered or wet. But when on the same day they bought "ready" *bojhas* of ginned cotton they had to pay only say Rs. 97 or 98 per *bojha* whilst the cotton purchased as *kapas* cost Rs. 101 or 102. The difference of Rs. 4 or 5 per bale was found on investigation to be merely due to the fact that the ginned cotton they bought was watered. The merchant could not possibly have been able to sell at that price unless he depended on the weight of water in the cotton.

The extreme limit of watering reached was that in a *khandy* of 784 lbs. of cotton as much as 160 lbs. of water had been put.

A leading cotton merchant in Bombay had stated that he had seen a hose played on heaps of ginned cotton for three hours and that this was the second application of the hose.

The greatest complaint against watering was that it played havoc with cotton, as such cotton had to be sold as soon as it reached Bombay irrespective of whether it was near the market price or not and whoever bought this cotton and kept it in his godown for four or six months would soon find to his cost what colour it would have.

A new point was brought up in the course of discussion on the evil of mixing. It was stated that a practice had grown up in Bombay during the last year or so of full-pressed bales being opened and after being mixed with all sorts of Bengals, Mathia, Central Provinces and Berar cottons being re-pressed and exported principally to one country only. More than a lakh of bales had been pressed in this manner in Bombay last year. In this connection a cable from the President, Japan Cotton Merchants' Union, Osaka, to the Chairman, East India

Cotton Association, Bombay, was read drawing attention to the intentional mixing and re-pressing of tremendous volume of widely varying cotton and emphasising that the interests of legitimate cotton merchants and shippers were endangered and Indo-Japanese cotton trade unfavourably affected.

Finally the meeting adopted the following resolutions :—

RESOLUTION—“ The Indian Central Cotton Committee congratulates the Bombay Government on the rapid progress they have made with the introduction of the Bombay Cotton Ginning and Pressing Factories Amendment Bill in the Bombay Legislative Council.

The Indian Central Cotton Committee endorses the recommendation of the Local Sub-Committee regarding the detailed provisions in the Central Provinces Cotton Ginning and Pressing Factories Amendment Bill for dealing with watering, excessive seed, introduction of extraneous matter and mixing of different kinds of cotton.”

With regard to the new point about re-pressing the *President* suggested that it should be taken up by the Local Sub-Committee. It was possible that some change in the rules for the marking of bales, whether pressed or re-pressed in the Bombay city and island could be effected by which bales of cotton re-pressed in Bombay could be distinguished from those pressed in other parts of India. The *Vice-President* suggested that if the Committee would leave the matter to the Local Sub-Committee the latter would try and devise some means to put an effective check to the practice complained of.

SUBJECT 9.—*Report on the Fumigation of American Cotton.*

The meeting unanimously passed a resolution.

RESOLUTION—“ That the recommendations of the Standing Finance Sub-Committee that the Government of India be requested to make permanent the present fees for the fumigation of American cotton of Rs. 2-7-0 per square bale and of Re. 1-8-0 per round bale be approved.”

It was explained that the charges mentioned in the resolution were those in vogue at present and the Government of India desired to know whether the Committee wished to change them or would like them to be made permanent. Stress was laid on the need for keeping fumigation rates as low as possible.

SUBJECT 10.—*Cotton Options—Proposed additions and amendments to the By-laws of the East India Cotton Association, Ltd.—Reference from the last meeting of the Committee.*

It was explained that the consideration of the subject had been deferred to this meeting in order to enable the President and Vice-President to discuss it informally with the various departments of the Government of India which were concerned. As a result the President made a number of suggestions in a supplementary note.

After a lengthy debate it was resolved unanimously that the Committee's reply to the Government of Bombay with regard to the

proposal to legalise and regulate cotton options should be as contained in the President's Supplementary Note.

The suggestions made in the supplementary note are as follows :—

- (a) Subject to certain conditions single options, *Teji* or *Mandi*, should be recognised and trading in them regulated by the East India Cotton Association but that double (*Teji Mandi*) options should not be recognised ; it must be a condition of such recognition that all unrecognised option business would be prohibited and made illegal—as well as unenforceable. In other words, a Bill on the lines of Sardar Bhimbhai Naik's Bill will have to be passed into law before options can be recognised.
- (b) It should remain within the power of the Government of Bombay to retrace their steps should the experiment of legalising options prove a failure. As the Bombay Cotton Contracts Act stands at present the by-laws of the East India Cotton Association require the prior approval of the Governor-in-Council but there is no clause enabling the Governor-in-Council to cancel a by-law once made if its working is found unsatisfactory. It is obviously desirable from every point of view that there should be some flexibility especially during the experimental period and the Governor-in-Council should have the power of cancelling or calling for the modifications of any by-law the operation of which was found detrimental to the operations of the East India Cotton Association or to the interests of any part of the cotton trade.
- (c) It should be a condition of the recognition of option-dealing that all transactions between members and non-members should be registered with the East India Cotton Association though not adjusted in the same manner as transactions between members. One of the great dangers of the present system of unlegalised options is the unknown volume of such options and of the consequential impending operations on the hedge contract market proper. If all transactions in options are registered the position will always be known to the trade in general.
- (d) Only such options should be recognised as are of use to the genuine trader. It is desirable that the minimum period for options should in no case exceed one month. In fact the original Bombay system included only yearly options and it is clearly desirable that the option period should not be shorter than is needed by legitimate traders. The permissible options should be stated in the by-laws and approved by the Bombay Government.
- (e) Finally, it is important that these new responsibilities should not in any way endanger the stability of the Clearing House of the East India Cotton Association. So far as transactions between members of the Association are concerned, the existence of the deposit of Rs. 20,000 appears to be an adequate guarantee. But it seems necessary that, in transactions between members and non-members, the non-member should

The speakers emphasised the importance of introducing such a bill whereby an illegal practice was being legalized only after the fullest consideration as once such a Bill came into force, dishonest people will be gaining at the expense of honest people as the detection of exact percentage of mixture was almost impossible. If anybody prepared a mixture of 40 per cent and mentioned on the bale 20 per cent there was nothing to check him from doing so. It was therefore necessary before such a Bill was permitted to become law that ways and means should be found out to determine the exact percentage of mixture which a certain bale of cotton contained. An alternate suggestion put forward was that all bales containing mixture should be marked as impure without specifying the exact percentage of mixture on them, while bales containing no mixture should be marked as pure. The main reason for mixing the American cotton with *Desi* was the fact that there was a demand for mixture by the consumer and not that the grower deliberately resorted to this practice. All speakers were however agreed that evil of permitting mixing would instead of checking the malpractice increase it as the detection and determination of the exact proportions in the mixtures were impossible. The proposal was therefore regarded as impracticable.

The *Vice-President* was of opinion that the Committee should put its seal on mixtures only under absolutely uncontestable circumstances. Hence he suggested that the consideration of this point should be referred to the Local Sub-Committee for report and for this purpose the Local Sub-Committee should be authorised to co-opt some members from the Punjab and Sind, who were interested so that the matter could be very fully gone into.

The *Vice-President's* suggestion was approved.

SUBJECT 9.—*Cotton Ginning and Pressing Factories Act. Progress made in Indian States :—*

- (a) *Khairpur State.*
- (b) *Malaya State.*

The Secretary's note* was recorded.

SUBJECT 10.—*Restrictions imposed by the Gwalior Darbar on the ginning and pressing of cotton imported into the State.*

On a representation from the Secretary of the Committee that Patiala cotton was being imported into Gwalior State territory and after being baled was exported as Gwalior cotton, enquiries were made and these confirmed the correctness of the report. The guilty party was traced and on the matter being brought to the notice of the Gwalior Chamber of Commerce, the members protested against the practice and decided that importation of outside cotton should be stopped. On the recommendation of the Chamber of Commerce, the Gwalior Government issued a *Gazette* notification with the consent of the Gwalior Council. The first clause of the notification made

* Appendix II (page 52).

the seed of the *Kapas* grown outside the State. The third clause required that the owner or person in charge of a pressing factory should cause all the bales pressed in his factory to be marked in such a way as to show clearly the kind of cotton contained in the bale, that is *Malvi* or *Mewadi* or *Bengal* and also to indicate clearly whether the bale contained pure or mixed cotton. In view of the discussions which had already taken place under subject 8(c) the marking of bales as mixed or pure would evidently serve no useful purpose. The State had already taken action in the matter and now it was for the Committee to consider whether the rules should be adhered to or whether the marking of the bales as pure or mixed should be stopped.

The *Vice-President* said that if the opinion of the Committee was required the State would have to wait till the Local Sub-Committee had considered the problem and given its opinion. He therefore suggested that this question be referred to the Local Sub-Committee along with the Punjab question as the point could not be usefully discussed by the Committee at that stage.

On an enquiry as to whether the Gwalior Government should be asked to stop the marking of bales as pure or mixed and the enforcement of penalties, the *Vice-President* replied that it would be better to defer action until the Local Sub-Committee had considered the matter.

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This was approved.

SUBJECT 11.—*Amendment of Form 'A' Prescribed under Rule 16 of the Indian Cotton Cess Rule 1923.*

The Secretary's note* was recorded.

SUBJECT 12.—*Second Annual Report of the Lancashire Indian Cotton Committee—Remarks of Members.*

By a resolution the Committee noted with satisfaction the efforts of the Lancashire Indian Cotton Committee to extend the use of Indian cotton in Lancashire. It was pointed out that the Indian Central Cotton Committee should express its appreciation of the efforts of the Lancashire Indian Cotton Committee and this could best be done by sending a copy of the resolution and also a copy of the opinions of the members as expressed in the Secretary's note. In this connection it was pointed out that the report would have been interesting if Lancashire had mentioned the counts for which Indian cottons were found to be best adopted. The *Vice-President* in drawing attention to Subject 21, said that the Standing Committee on wider markets had passed a resolution and it would be better if that resolution were added to this particular resolution under discussion. The following resolution passed by the Special Sub-Committee on wider markets was tacked on to the original resolution :—

“That the Indian Central Cotton Committee notes with satisfaction the continued efforts of the Lancashire Indian Cotton Committee to extend the use of Indian cotton in Lancashire and trusts

* Appendix III (page 53).

that the good work being done by that body will be of mutual advantage to both countries."

The resolution of the Wider Markets Sub-Committee was passed as a result of a comparative study of the figures of production of cotton yarn under 20's counts in the United Kingdom and Japan and the figures of takings of Indian cotton by these countries. The total quantity of cotton required for the production of yarns up to 20's in the United Kingdom had been estimated at about 1,363,000 bales, against an average yearly consumption of a little over 2 lakhs bales of Indian cotton in 1930-35, though in 1935-36 takings of Indian cotton had reached 5 lakhs bales. Comparing these figures with the takings of Indian cotton by Japan it would be seen that for the years 1931-34, out of a total of 19 lakhs bales for counts from 1 to 20's Japan had used Indian cotton to the extent of 14 lakh bales, namely about 63 per cent of her requirements; against this Great Britain was using barely 20 to 25 per cent. It would thus be seen that a potential market existed in Great Britain for Indian cotton. It was therefore an opportune moment for the Indian Central Cotton Committee to bring this matter home to the Government of India and to the Lancashire Indian Cotton Committee in view of the forthcoming trade negotiations between India and United Kingdom. The following combined resolution was then carried unanimously :—

RESOLUTION.—"That the Indian Central Cotton Committee notes with satisfaction the continued efforts of the Lancashire Indian Cotton Committee to extend the use of Indian cotton in Lancashire and trusts that the good work being done by that body will be of mutual advantage to both countries.

"While appreciating the efforts made by the Lancashire Indian Cotton Committee to increase the use of Indian cotton and whilst expressing satisfaction that the figure of nearly 5 lakhs bales has been reached the Indian Central Cotton Committee desires to point out that from statistics of counts of yarns of 20 and below produced in the United Kingdom the Committee believes that there is still much further scope for use of Indian cotton in the United Kingdom."

SUBJECT 13.—*Report on the Fumigation of American Cotton.*

The Secretary's note* was recorded.

SUBJECT 14.—*Half-yearly Report† of the Publicity and Propaganda Officer.*

Appreciation of the assistance which the Publicity Officer had given in getting rid of Goghari cotton from Bombay Presidency and the Baroda State was expressed and the satisfactory results attending his efforts were recognized in the meeting. The considerable benefit derived by the special tour of the Publicity Officer which he had made in connection with the propaganda campaign conducted by him in United Provinces for the extension of Pink Boll-worm control measure in the United Provinces was noted with satisfaction. It was to be hoped that the United Provinces would have the advantage of the

* Appendix IV (page 53). † Appendix V (page 54).

Publicity Officer's services again in connection with the Industrial and Agricultural Exhibition in Lucknow during the coming cold weather.

The valuable assistance given by the Publicity Officer in Sind, especially in the introduction of cotton on the right bank of the river Indus was appreciated and the proposal for introducing the education of the agriculturists in Sind on various subjects connected with cotton and remove misunderstandings in regard to mixing and the other malpractices through the installation of village radio sets and a broadcasting station on the lines of the one existing in the North West Frontier Province was also commended to the consideration of the Committee.

The *Vice-President* said that the services of the Publicity Officer continued to be in demand from various quarters and his work as was expected was quite satisfactory. He further remarked that the Publicity Officer was very keen in meeting all demands on his time and energy and he had no doubt that wherever he went he gave a very good account of himself. The *Vice-President* proposed the following resolution which was carried unanimously.

RESOLUTION.—"That the half-yearly report of the Publicity and Propaganda Officer be approved."

SUBJECT 15.—*Summary Proceedings of the Local Sub-Committee.*

The Summary Proceedings were recorded.

SUBJECT 16.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The Secretary's note was recorded.

SUBJECT 17.—*Studies of Village Consumption of Cotton—Reports on Enquiries.*

Replying to an enquiry on the high *per capita* figure of village consumption in the United Provinces as compared with the low *per capita* consumption figures of some other provinces, the *Vice-President* referred to the recommendation of the Cotton Forecast Improvement Sub-Committee that the subject of village consumption of cotton should be postponed till the reports from Bihar and Sind were received and a consolidated report on an All-India basis was put up for consideration. He therefore thought it premature to discuss the question raised.

SUBJECT 18.—*Publication of Monthly Statements of Cotton Pressed in Indian States in terms of Statistical bales of 400 lbs. net.*

The recommendation of the Cotton Forecast Improvement Sub-Committee was adopted.

SUBJECT 19.—*Report* of the Cotton Forecast Improvement Sub-Committee.*

SUBJECT 79.—*Progress Report of the Bombay Cotton Crop Forecast Improvement Scheme for the Year ending 15th June 1936, and Programme of Work 1936-37.*

(The above two subjects were discussed together.)

After some discussion on the difference in standards adopted for a normal crop in terms of *annawari* and the bearing that anna valuation had on the question of revenue remission, a suggestion was made that the work of crop forecasting should be in independent hands as the revenue officers were likely to overestimate the anna valuation for revenue purposes. It was however pointed out that while this difficulty would never disappear so long as crop forecasts were mixed up with revenue estimates, it did not necessarily follow that no attempt should be made to work out a parallel estimate on other lines. This question was receiving attention under the scheme in Bombay. Considerable light had been thrown on the subject by studying the very successful methods adopted for estimating the wheat crop in Canada by an independent body on the basis of the information obtained from honorary correspondents and personal inspection of the crop at numerous centres. An attempt was being made to find out whether work could be conducted on similar lines in Bombay, but undoubtedly the ideal was to get an estimate which would be entirely free from revenue considerations.

The following resolution moved by the *Vice-President* was adopted :—

RESOLUTION.—“That the Report of the Cotton Forecast Improvement Sub-Committee be adopted.”

SUBJECT 20.—*Submission of Periodical Reviews of the State of Foreign Trade in Indian Cotton.*

The *Vice-President* in drawing attention to the President's note said that the Sub-Committee on wider markets had accepted the President's suggestion that a clerk should be kept in the office of the Director-General of Commercial Intelligence and Statistics, Calcutta, at the cost of the Committee with the object of diving into the various records available in the Director-General's office and furnishing reviews on the state of foreign trade in Indian Cotton. The Millowners' Association had a similar arrangement with the Director-General of Commercial Intelligence and Statistics and it had worked very satisfactorily. He asked the Committee to confirm the action of the Sub-Committee.

This was agreed to.

SUBJECT 21.—*Report† of the Special Sub-Committee on Wider Markets for Indian Cotton.*

The following Resolution moved by the *Vice-President* was carried.

RESOLUTION.—“That the Report of the Special Sub-Committee on Wider Markets be adopted.”

* Appendix VI (page 60). † Appendix VII (page 60).

SUBJECT 22.—*Technological Research—Progress Report* of the Director, Technological Laboratory.*

Satisfaction was expressed at the results obtained at the Laboratory; the fibre work being done there was also praiseworthy. The Committee was congratulated on the usefulness of the work being done at the Laboratory.

The *Vice-President* moved :—

RESOLUTION.—“ That the Progress Report of the Director, Technological Laboratory, be approved.”

The Resolution was carried.

SUBJECT 23.—*Technological Research —Report† of the Technological Research Sub-Committee.*

The *Vice-President* pointed out that at its last meeting the Committee had appointed a Sub-Committee to go into the question of effecting retrenchment in the expenditure of the Laboratory. The Report of that Sub-Committee which was unanimous had recorded its appreciation of the work done at the Technological Laboratory and had also made certain recommendations. One of these suggested that the present agreement of the Spinning Master of the Laboratory should not be renewed on its expiry. This recommendation had not the unanimous support of the Sub-Committee members as two members were against it. As however, the renewal of the agreement involved the payment of a salary of Rs. 950/-plus free house the majority of members felt that the pay was on the high side and that a new man should be recruited on a pay upto Rs. 500. He asked for the confirmation of the Sub-Committee's decision but made it clear that it was not the intention of the Retrenchment Sub-Committee that the present occupant of the post should be banned from applying for the post. The acceptance of the recommendation would bring about a saving of at least Rs. 450/-and possibly the Committee also would not be obliged to provide premises. With reference to the recommendation of the Sub-Committee regarding the scales of pay to be fixed for future entrants of the Laboratory, the *Vice-President* explained that the recommendations implied that the grade for the new entrants only would be settled hereafter by the Technological Research Sub-Committee.

The following Resolution was then moved by the *Vice-President* and carried :—

RESOLUTION.—“ That the Report of the Technological Research Sub-Committee be adopted.”

“ That an Expert Sub-Committee consisting of the President, the Vice-President, Diwan Bahadur Sir T. Vijayaraghavacharya, Mr. Saklatwala, Mr. Kasturbhai Lalbhai and Director, Technological Laboratory, be appointed to consider applications and select a candidate for the appointment of Spinning Master at the Technological Laboratory and that the Standing Finance Sub-Committee be empowered to consider the report of the Sub-Committee and to make the necessary appointment.”

SUBJECT 24.—*Agricultural Research Sub-Committee—General Progress Report.*

The Secretary's note* was recorded.

SUBJECT 25.—*Progress Report on Broach Cotton Breeding Scheme.*

In replying to the suggestion that before the consideration of research schemes was taken up, it would be desirable to arrive at a decision on the question as to the proportion of expenditure a local Government should be required to bear when schemes were extended, the *Vice-President* said that a general discussion on the point would not be very helpful. In the past such cases had been decided on their own merits and this procedure had been found satisfactory. If, however, a fixed policy for the future was to be laid down, the question would first have to be considered by the Agricultural Research Sub-Committee and then by the Indian Central Cotton Committee.

The suggestion in view of the above explanation was withdrawn.

With reference to the Broach Cotton Breeding Scheme, it was pointed out that the scheme was intended to have for the Broach area a cotton which combined wilt resistance with high ginning percentage. The Agricultural Research Sub-Committee had also made valuable recommendations, the first that early steps should be taken to carry out yield trials on a fairly big scale and the second that the number of crosses should be reduced. These recommendations had been accepted and work would be carried out with the modifications suggested.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 26.—*Progress Report on Jalgaon Cotton Scheme.*

It was stated that there was a distinct improvement in the quality of the cotton that was being produced at the station. The main object of the scheme was the evolving of a wilt resistant cotton for this part of the Bombay Presidency and suggestions had been made as to the lines on which work might continue. It was probable that from the corresponding work going on in Poona, the object would be secured. The work was satisfactory and it needed to be continued.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 27.—*Progress Report on Madras Herbaceum Scheme.*

It was stated that this scheme which had been running for some time had now reached a definite stage when tests on a large scale of the variety—4714, could be carried out in the districts. With reference to the question as to whether the variety was recognizable from the crop it was intended to replace, it was pointed out that there was a difference in the colour of the flower. In this connection a recommendation to speed up work by early yield trials on certain varieties and if possible, by pushing on with the study of broad-lobed mutants from these strains had been made. This would lend some definite indication as to which strains were worth retaining and which not by the time this scheme ended in 1938. Since the scheme had less than

two years to run, it was suggested that the work of testing out all suitable varieties in replication should be done as quickly as possible. The report was recorded as satisfactory and the work was going on along right lines.

It was stated that although the scheme had been going on for a long time nothing definite had come out of it and the Sub-Committee felt that this particular scheme tended to have too many types under test and to change them too often. The explanation given was that the scheme started with selection work which continued till 1930 and it was then found to be a failure. In 1930 hybridization work was started and it was now possible to say that promising material had been obtained which was useful for extension. With regard to the Second point it was stated that the types were not changed and now a stage had been reached, when some definite types which were very promising, could be given out.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 28.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

As the report dealt with only one year's work, the Sub-Committee considered that this was not sufficient to enable a correct appreciation to be made and it accordingly recommended that a fuller report should be submitted at the next Agricultural Research Sub-Committee.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 29.—*Progress Report on Bikaner Gang Canal Scheme.*

The Sub-Committee considered the final report of this scheme representing five years' work, and found that what had been done so far was most satisfactory as very definite progress had been made. The programme set out for the new scheme was also considered to be very satisfactory.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 30.—*Progress Report on Bengal Comilla Cotton Scheme.*

The Sub-Committee was not satisfied that the work which was going on on this scheme was altogether at its best. More attention seems to have been paid to minor items and certain lines of work did not seem to be in agreement with the original objects of the scheme.

The Vice-President said that the Sub-Committee considered that the Bengal Government did not appear to be tackling this problem in the correct manner and it suggested that the President should write to the Government of Bengal. In view of this the Report of the Sub-Committee might be adopted; the scheme would be discussed again when a reply from the Government of Bengal was received.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 31.—*Progress Report on the Punjab Botanical Scheme.*

The Sub-Committee considered the report on this scheme to be satisfactory and the work which was going on was considered to be of very good quality and was bound to expand rather than contract.

Since this scheme had been working for over 13 years and it had cost Rs. 7,16,980 to date, it was suggested that for all extension schemes in future the duration of such schemes, their cost and future commitments should be definitely stated as this would enable a general idea of the importance of a scheme to be formed. Although plant breeding took time and nature did not allow herself to be compressed within a time table, an approximate idea of the time required would be of great use. Every scheme must have an aim but in Plant Breeding Schemes there was a tendency to work new material and start on new lines. This might dissatisfy those who were financing the scheme. It was therefore desirable that a scheme should be confined to an objective and the time in which it was likely to attain it assessed.

The *Vice-President* said that since the Committee had already spent over 7 lacs on the scheme, there should be a finality about it or some sort of programme should be laid down which would show how long the Committee was committed to expenditure although the utility of the scheme was fully appreciated.

The discussion of the principle was left over to be continued if necessary under Subject 72.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 32.—*Progress Report of the Central Provinces Botanical Scheme.*

The Sub-Committee was satisfied with the results obtained so far on the scheme particularly with the 434 *Verum* which continued to stand upto very rigid tests. In addition to being a good variety it also appeared to be adaptable to all conditions of soil and climate and as it was also wilt-resistant and prolific, it was a useful agricultural crop which could be depended upon. The Sub-Committee considered the matter of research workers doing work on the rotation crops and although this was really an addition to Cotton work it did not mean that the Cotton staff was being diverted in any way from its legitimate duties. The Sub-Committee thought that there was no danger of creating a principle here and they did not see any necessity for stopping the rotation work.

It was pointed out that *Verum* cotton was being freely mixed and sold as pure cotton and was therefore different from the *Verum* cotton purchased on the spot. Moreover the cultivation of *Verum* in commercial quantities had been going down every year for no apparent reason. It was feared that like the Karungani cotton in Madras Presidency, *Verum* may also become rare if neglected in a similar manner. It was therefore suggested that more and more *Verum* seed should be distributed. In connection with this it was stated that the Agricultural Department was trying its best to meet the case. The Department in spite of having its own selling organisation could not

succeed in collecting all the *Verum* grown. The only difficulty was that the trade did not patronise the Departmental pure cotton to a great extent. Moreover, there was a great deal of competition from local dealers. It was admitted to be a fact that a certain proportion of *Verum* cotton was purchased by local dealers and mixed with local cotton. Any suggestion to put a stop to this practice was invited with regard to short staple cotton. It was stated that a Bill was already pending before the Legislative Council of Central Provinces for the prohibition of the growing or handling of Garrow Hill cotton. That Bill had already been offered to a select committee which was due to meet sometime before November. Another point suggested in the interest of the agriculturist was that it would be better if the report indicated what soils give better out-turns and what soils were unsuitable for the particular varieties, *Verum* 434, Late *Verum*, *Buri*, and *Akola* special, as this would help in increasing the supply of long staple cotton.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 33.—*Progress Report on Hyderabad Botanical Scheme.*

The report was satisfactory in so far as it related to the work meant to be done at Parbhani itself. The Sub-Committee was somewhat doubtful whether Parbhani was the right place for carrying out work in connection with the improvement of the cotton of the Gaorani tract. The main recommendation of the Sub-Committee was that a new breeding station should be created at Nanded in the Gaorani tract itself and until such time as that was done the two present variety testing stations at Latur and Mudhol should be utilized for testing the available or newly selected types. An assurance was given that a special station at Nanded would be established in the near future.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 34.—*Progress Report on the Punjab Pink and Spotted Boll-worm Scheme.*

In reviewing the progress report the Sub-Committee had noted that whereas in the previous report it had been assumed that the alternate host plant mainly responsible for the carry over of spotted boll-worm was the shoots from cotton stocks and that consequently the eradication of cotton stalks on the same lines as had been suggested in Gujarat and elsewhere would effectively control the spotted boll-worm, further investigation had shown that there were six other alternate host plants on which spotted boll-worm could survive the close season. The extent to which these plants occurred had been more or less determined but the Sub-Committee was not satisfied that an accurate estimate had been obtained of the actual effect of these plants in carrying over the pest from one season to another. It therefore recommended that this investigation should be the main item of the programme of work for the coming season. The Sub-Committee also noted that on account of the failure of Gujarat type of plant puller to tackle Punjab cotton stems, it was not possible to use it for the clean-up campaign. Attempts were being made to improve the type of the puller and in the meanwhile some other implement might

be employed for the demonstration of clean-up on an adequate area like the Lantana *Kudali* as is used in Southern India.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 35.—*Progress Report on the Punjab White Fly Scheme.*

The Progress Report confirmed the work of the previous year, and the writing up of the final report was now in progress.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 36.—*Progress Report on the Central Provinces and Berar Entomological Scheme.*

SUBJECT 68 (e).—*Research Schemes Proposed Extensions of Central Provinces and Berar Entomological Scheme.*

(The above two subjects were discussed together.)

This scheme was launched to tackle the pink boll-worm and the spotted boll-worm problem in Central Provinces. The information contained on the point was however not quite adequate. An important fact mentioned in the progress report was the discovery of *Heliothis Obsoleta* which so far had never been reported in India as a serious cotton pest. It was a serious pest of cotton in Africa and it had been doing as much damage as the boll-worm to the cotton crop of Central Provinces. This was a serious matter and the insect had to be recorded as a new pest in India; the Sub-Committee therefore felt that it was essential that the status of this pest should be determined and it accordingly recommended the continuation of the scheme for a further period of 12 months for the examination of the existence and the life-history of this new boll-worm of cotton. This was to be the main plank in the programme of the scheme.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 37.—*Final Report on the United Provinces Pink Boll-worm Scheme.*

The final report on this scheme was expected to be received as early as possible before the next meeting.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 38.—*Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme.*

SUBJECT 68 (f).—*Research Schemes—Proposed Extensions of Hyderabad Pink and Spotted Boll-worm Scheme.*

(The above two subjects were discussed together.)

The Sub-Committee was satisfied with the work done in connection with this scheme and it had drawn attention to the fact that the investigation had proved to be much more complex and laborious than was anticipated when the scheme was started. Consequently although

some parts of the work had been done very completely it had not been practicable to complete the observations upon the extent of the carry-over of the pink boll-worm in the soil from one season to another and to try control measures on an adequate scale. In view of this, and of the importance of having a thorough knowledge of that important pest in the black cotton soil tract, the Sub-Committee recommended an extension of the scheme, the extension being confined to research for determining the effect of the subsequent attack of pink boll-worm at different months of the year upon the next crop from the caterpillars hibernating in the soil and to find out whether or not an eradication of the cotton stalks early after harvest would be able to effect any control. It was proposed in the new scheme to carry out a clean-up campaign of some 400 square miles and the recommendation of the Sub-Committee was subject to the Hyderabad Government undertaking to issue the necessary instructions through their revenue staff for the clean-up scheme to be properly carried out. An enquiry as to what arrangements had been made under the scheme of an estimation of the effects of the proposed clean-up campaign, elicited the information that provision had been made for an adequate number of small check plots within and outside the controlled area to measure the effect of the subsequent clean-up of the pink boll-worm. No provision had been made for the purchase of the plots and it was presumed that the Hyderabad Government would be able to arrange for this.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 39.—Progress Report on the Punjab Root Rot Scheme.

The Sub-Committee was of opinion that a considerable amount of useful work was being done on this scheme and had pointed out certain items in the original report which were not of very great importance and which therefore did not require very much attention to be given to them. The Sub-Committee also drew the attention of the Punjab Government to the fact that the officer-in-charge might visit Poona for consultation with Dr. Uppal, regarding certain items of work which might be common.

It was observed that the Sub-Committee's action on this scheme and on the Bengal Comilla scheme were two very good examples of the usefulness of the criticisms made in the Agricultural Research Sub-Committee and the full committee could feel certain that very effective criticisms were being made on schemes as and when required.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 40.—Progress Report on Baroda Root Rot Scheme.

SUBJECT 68 (g).—Research Schemes—Proposed extension of Baroda Root Rot Scheme.

(The above two subjects were discussed together.)

The Sub-Committee had no remarks of any importance to make on the actual working of the scheme as reported up to that time. The scheme was due to conclude in January 1937, and the Baroda Government had put up proposals for its extensions. The actual cost to the Committee, if the scheme were to be carried on as at present,

would have been in the neighbourhood of Rs. 69,575, but the Baroda Government had undertaken to bear about 40 per cent. of the actual expenditure. Proposals for the extension of the scheme were examined by the Sub-Committee and certain slight changes were made, as shown in the report of the Agricultural Research Sub-Committee. The work in future to a certain extent would consist of plant pathological work in the nature of plant breeding. There were certain indications of the possibility of getting certain root rot resistant types suitable for the light soils of Gujerat and Baroda and for the Gorat soil in the adjoining neighbourhood. This disease did a considerable amount of damage in the areas affected and it was estimated that the resultant loss was about Rs. 18 lacs in the Baroda State and possibly Rs. 23 lacs in the other areas.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 41.—*Progress Report on Mysore (Doddahathi)*
Cotton Scheme.

The Report covered the first five months' working of the scheme for investigation of red leaf disease and for the production of wilt-resistant varieties. Due to the fact of the scheme having been in operation only a short time, nothing could be said about the work done but although the range of the scheme was very wide, the staff provided by the Indian Central Cotton Committee dealt with only that aspect of the scheme which pertained to the breeding and selection of immune or resistant varieties, the rest of the work was being done by the staff provided by the Mysore Government and by Research students working under them.

It was pointed out that the disease in Mysore was not carried through the soil but the source of the disease had not been located, although it was expected to be done in the near future.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 42.—*Progress Report on Madras Pempheris and Physiological*
Scheme.

The Sub-Committee had drawn attention to the high tolerance which was shown to Pempheris attack by certain Brazilian types of cotton which had more active gumming resistance and which might serve as valuable parents in the production of resistant types suitable to the area. The assumed association of such a protective device against an attack by an insect suggested the possibility of finding in the original home of Pempheris an insect parasite which might be utilized for the control of the insect in India. The programme of future work was approved with the exception of the item "testing the pathogenicity of the Bacterial Cultures of Plants." The point which the Sub-Committee desired to draw attention to was that the programme of work on the scheme was also associated with the evolution of a strain of *Karunganni* which had no connection whatsoever with the Pempheris problem and with which it was only linked up for convenience because the two problems were being investigated in the same area. In future it was suggested that the two problems

should be reported on separately although the evolution of a strain of *Karunganni* formed the physiological part of the Pempheres and physiological scheme.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 43.—*Progress Report on Madras Fodder Choram Scheme.*

The investigation had not so far shown whether the effect of the growth of *Choram* on the subsequent crop was due to the increased quantity of clay in the soil or to any other factor.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 44.—*Progress Report on Sind Physiological Scheme.*

The Sind Physiological Scheme dealt with the way in which the cotton plant in Sind utilizes the water and manure presented to it and also with certain obscure diseases mainly red leaf which were not due to fungus. The scheme had definitely reached its end in connection with irrigation and manuring. A leaflet issued by the Chief Agricultural Officer in Sind contained specific recommendations on the subject which could be carried out on the larger States under barrage irrigation. Red leaf still remained an unsolved problem and it was possible that its cause was not the same in all places. In deciding not to recommend the continuation of the scheme, the Sub-Committee expressed the hope that the red leaf and other similar problems connected with also other crops would be subject to physiological research in Sind hereafter. With reference to the aforesaid pamphlet it was remarked that the pamphlet being in English was not understood by the growers. It was further pointed out that in Sind the practice of the agriculturist to manure their fields before sowing necessitated the explanation of the best method for manuring the fields and watering the crops by the chief Agricultural Officer in Sind.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 45.—*Progress Report on the Scheme for Survey of Goghari Cotton in Gujerat.*

Under this scheme a temporary staff of 6 Kamgars was appointed to trace the places where *Goghari* was grown and to dissuade people from doing so and also to side-track any *Goghari* cotton that might have actually been produced. The scheme was started previous to the passing of legislation but now that legislation had been enacted the staff already employed would be helpful in assisting the smooth working of the Act and generally in retaining and continuing the pressure against the cotton in question.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 46.—*Progress Report on the Scheme for Survey of Cotton in Rohilkhand and Bundelkhand, United Provinces.*

The scheme was intended to find out what varieties of cotton were actually available in the two areas. The Sub-Committee in reading

through the report thought it to be somewhat confused, but the actual results had been good and a great many useful types had been discovered and were being tried out in four places. The scheme was due to terminate in February 1937, and its renewal was regarded unnecessary since it had served its purpose.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 47.—*Final Report on Hyderabad Cotton Survey Scheme.*

The Report on this scheme could not be presented in time and the Sub-Committee had accepted the reasons therefor.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 48.—*Progress Report on the Scheme for Survey of Goghari Cotton in Baroda State.*

The scheme was similar to the Bombay Goghari Scheme and Bombay and Baroda were working closely together in connection with the propaganda.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 49.—*Progress Report on the Plant Puller Propaganda Scheme in Surat and Broach Districts.*

SUBJECT 50.—*Progress Report on the Plant Puller Propaganda Scheme in Baroda State.*

The work in connection with the above had gone on quite satisfactorily in both the Bombay and Baroda areas. More progress had been made on the Broach side of the scheme and more intensive work was needed in the Navsari District. A question as to whether the pulling up of the stalks removed also the manure from the soil was replied in the negative.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 51.—*Progress Report on the Scheme for Defibration of Cotton seed in the Bombay Presidency.*

SUBJECT 52.—*Progress Report on the Scheme for Defibrating and Delinting Plant in the Punjab.*

The Sub-Committee was rather doubtful as to the utility of the work on these schemes. In Bombay the defibrated cotton seed had low germination and in the Punjab the defibrated seed commanded a lower market than the undefibrated seed. As it was fit for only cattle food, the Sub-Committee in view of the doubtful utility of the work had recommended that the officers responsible for the scheme should get together and submit a joint report to the next meeting of the Agricultural Research Sub-Committee. It had also recommended that more attention should be devoted to the economic aspect of the work during the intervening period. The Sub-Committee

further recommended that the Committee should not undertake similar work in any other province till these two schemes have been reconsidered.

The *Vice-President* remarked that the scheme at both the places had not been working at full swing. In the Punjab the machine did not do the work for which it was intended, and it was decided to return the machine to the manufacturer if it failed again this year. In Gujerat, the scheme was not promising. It would, however, come up for further discussion after a full trial of one year.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 53.—*Annual Report of the Institute of Plant Industry, Indore.*

The Report of the Institute contained a record of very satisfactory work of first class importance, particularly that reported on in the section dealing with cotton botany and genetics. It was, however, suggested that a less condensed report would enable a wider discussion in detail.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 54.—*Progress Report on Burma Cotton Improvement Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 55.—*Seed Distribution and Extension Schemes—Final Progress Report on Hubli Scheme.*

The main criticism against the scheme was mainly concentrated on the question why 2 lakhs acres were not covered with the Jayawant cotton. It was explained that the three main reasons for this were: (i) that all the produce did not come to the society (ii) that the produce that came to the society could not all be graded as it was not all sold by auction, some of it being sold by private treaty and (iii) that the society felt that it could not undertake the responsibility for purchasing seed on so large a scale. The difficulties had however, been overcome in the new scheme which was now in its first year. The keynote of which was decentralization, so that no single agency had too great an area to cover or too great a responsibility to carry.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 56.—*Seed Distribution and Extension Scheme—Final Progress Report on Gadag Scheme.*

This scheme was a sister one to the Hubli Scheme and under the same set of circumstances, the difficulties had been overcome in a similar manner.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 57.—*Seed Distribution and Extension Schemes—Final Progress Report on Athani Scheme.*

The scheme had now terminated and the work done on it was considered satisfactory. The only suggestion made by the Sub-Committee was that when such schemes terminated, a balance-sheet embodying an estimate as far as possible of the pecuniary value of the scheme should be drawn of.

The *Vice-President* remarked that such a balance-sheet would not only be very much appreciated by the trade members but it would also bring home to the commercial members of the Committee and to the public to what extent the seed schemes had been helpful to the agriculturists.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 58.—*Seed Distribution and Extension Schemes: Progress Report on Surat Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 59.—*Seed Distribution and Extension Schemes—Progress Report on Khandesh (Banilla) Scheme.*

The Sub-Committee had approved of the work so far done and had decided to continue the scheme for one year only in order to find out as to what arrangements the Government of Bombay proposes to make for carrying on the scheme in its third and final stages. The Committee was informed that the matter was still under the consideration of the Bombay Government and no decision had been arrived at yet.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 60.—*Seed Distribution and Extension Schemes—Progress Report of the Deccan Canals (Banilla) Scheme.*

The work on the scheme was considered to be quite satisfactory and since it was a self-supporting scheme, it was decided to continue the scheme on the present lines.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 61.—*Seed Distribution and Extension Schemes—Progress Report on the B. D. 8 Scheme.*

Since the Report on the above scheme contained only four months' work, it was proposed that the scheme should be reviewed again when a longer period of work had been carried out. It was suggested that there was a great need for propaganda in spreading the excellent qualities of this cotton as also for the acceleration of distributing the seed. It was however pointed out that the ginning percentage should not be minimised as cotton was largely bought on ginning percentage.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 62.—*Seed Distribution and Extension Schemes—Progress Report on Sind Scheme.*

The scheme which commenced with the opening of the Lloyd Barrage, was extended for five years. During this period the area under cotton in Sind had increased very considerably and since the seed distribution scheme could not keep pace with the rapid demand, multiplication of seed was being contemplated upon. The alternative proposals suggested for meeting the demand for supply of pure seed were that supply depots should be established in the various Taluka headquarters on a thorough and more rapid seed multiplication system. An extension of the scheme was therefore favoured together with the application of Cotton Ginning and Pressing Factories (Bombay Amendment) Act. It was further stated that all the three cottons, namely 4 F-98, *Sind Sudhar* and *Deshi* were being used in the respective areas suited to each. Stress was laid on the improvement of *Desi* cotton which was the special heritage of Sind and avoided distribution of the same.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 63.—*Seed Distribution and Extension Schemes—Progress Report on Madras Tiruppur and Co. 2 Schemes.*

The Sub-Committee expressed satisfaction at the removal of certain misunderstandings between the Agricultural Department and the Co-operative Cotton Trading Society and hoped that as a result satisfactory progress would be made on the lines originally sanctioned for the work.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 64.—*Seed Distribution and Extension Schemes—Progress Report on the scheme for extension of long staple cotton and marketing Verum cotton in the Central Provinces and Berar.*

The Sub-Committee had noted the progress made and found it to be quite satisfactory.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 65.—*Seed Distribution and Extension Schemes—Progress Report on Hyderabad Scheme.*

SUBJECT 69.—*Seed Distribution and Extension Schemes—Proposed Extension of :—*

(a) *Hyderabad Scheme.*

(The above two subjects were discussed together.)

The Sub-Committee felt that since the Raichur area had been subject to adverse climatic conditions for the last five years, the concentration of the whole of the initial stages of the scheme in that particular area was rather risky. It had therefore recommended that if possible the

initial stages of the scheme relating to production of seed should be located elsewhere. The Committee further recommended that the supply of seed from the Bombay Presidency should not be depended upon totally and that every effort should be made to make the scheme as independent as possible by centralizing it within the State. The extension of the scheme was approved subject to the condition that the State should meet at least 50 per cent. of the amount applied for.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 66.—Seed Distribution and Extension Schemes—Progress Report on Baroda Navsari Seed Storage Scheme..

The Sub-Committee approved the Progress Report on this scheme and considered the work done on it to be satisfactory. With reference to the question of importation of Khandesh seed it was explained that this seed was imported into Gujerat for purposes of feeding cattle owing to the draught caused by late rains and was never used for sowing purposes. Moreover, it was imported under licence as an emergency measure and if any such seed had been sown under such conditions the damage done was presumably very small.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 67.—Seed Distribution and Extension Schemes—Progress Report on the United Provinces—C402 Scheme.

The Sub-Committee approved the progress made and recommended that in future when any change in the type of seed was made the previous approval of the committee should be obtained or at least intimation of the intended change should be sent to the Committee. In the present case this had already been done.

The Report of the Agricultural Research Sub-Committee was adopted.

*SUBJECT 68.—Research Schemes—Extension of
(a) Broach Cotton Breeding Scheme.*

The scheme was regarded as doing considerable amount of good work and a great deal of benefit was expected from it. The Sub-Committee considered that the cost of extension should be limited to the amount originally financed and if the increase in the staff working at the station was regarded as essential the consequent extra expenditure for that purpose should be met by the Bombay Government. However, since the Bombay Government had already financed a large amount of the plant breeding work in Gujerat both at Surat and Viramgaon the Sub-Committee felt that the continuance of this scheme by the Indian Central Cotton Committee was justified. It was further suggested that the Baroda Government might be invited to contribute 10 per cent. towards the cost of the scheme, so as to relieve the Committee of certain amount of expenditure.

The Report of the Agricultural Research Sub-Committee was adopted.

(b) *Jalgaon Cotton Breeding Scheme.*

In view of the fact that the Bombay Government was contributing very largely towards the scheme the Sub-Committee recommended that the scheme should be continued as at present as the quality of Khandesh cotton had been considerably improved. The greatest problem in Khandesh at present was the question of wilt which has so far defied a satisfactory solution.

The Report of the Agricultural Research Sub-Committee was adopted.

(c) *Cotton Wilt Breeding Scheme at Poona.*

The research work on the above scheme was concerned with the wilt part of the Broach and Jalgaon schemes with which it was closely associated and if the full benefits from this investigation were to be derived, continuation of the cotton wilt work at Poona was justified and the Sub-Committee recommended accordingly.

The Report of the Agricultural Research Sub-Committee was adopted.

(d) *Plant Puller Propaganda Scheme in Surat and Broach Districts.*

The Sub-Committee had recommended the extension of the scheme on the present lines in the Broach District. As it was necessary that before legal action could be taken for the up-rooting of cotton stalks a certain amount of propaganda was needed. The Sub-Committee made some slight reduction in the cost of bringing it down to Rs. 9,060.

The Report of the Agricultural Research Sub-Committee was adopted.

(Subject 68 (e) was discussed along with Subject 36.)

(Subject 68 (f) was discussed along with Subject 38.)

(Subject 68 (g) was discussed along with Subject 40.)

SUBJECT 69.—*Seed Distribution and Extension Schemes.*—

(b) *Scheme for extension of marketing of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar.*

The Sub-Committee considered the progress made on this scheme to be satisfactory and recommended its extension for the original period of five years as the period of three years sanctioned by the Government of India was due to expire in March 1937. In examining the Budget under the scheme the Sub-Committee found that in certain definite cases the Central Provinces Government were employing their own officers for part of the year on the scheme and during such period they were replaced in the Central Provinces Agricultural Department by officers on considerably lower rates of pay. The Sub-Committee considered that in this scheme in particular and in all future schemes in general, the liability of the Committee should not exceed the out-of-pocket expenses of the local Government. The Sub-Committee therefore suggested that the present Budget of this scheme should be revised in accordance with its recommendations and resubmitted for sanction and that the general principle enunciated by it should be put into practice in all schemes in future.

It was observed that this recommendation of the Sub-Committee would involve some administrative difficulties as well as a certain

amount of reshuffling of accounts. In the beginning of the Central Provinces Botanical Scheme, Dr. Youngman, the officer-in-charge of the scheme, was paid by the Local Government whilst the pay of Mr. Mahta, who performed his duties in the Department was paid by the Committee. Mr. Mahta at that time was not a servant of the Committee but ultimately it was decided with the consent of the Committee to reverse the procedure whereby each of the officers would be paid by the authority which employed him. With reference to another point regarding the payment of certain deputation allowances it was hoped that the Committee would not discontinue them.

The *Vice-President* said that the Sub-Committee felt that from the information before it, the C. P. Government were actually making a saving by the arrangement which was not allowed. This principle of effecting a saving by using the Committee's money could not be accepted as the Committee's money was meant to supplement the expenditure of the Agricultural Department and not to replace the Budget expenditure of the Provincial Government. He however thought that further facts were needed before the question would be finally decided. He therefore suggested that the whole question be referred to the Standing Finance Sub-Committee for a decision or back to the full Committee if necessary. This was approved. In this connection it was agreed to inform the Director of Agriculture, Central Province, when the question came up for discussion before the Finance Sub-Committee, so that he could himself come to discuss the matter at the meeting.

SUBJECT 69.—*Seed Distribution and Extension Schemes—Proposed Extension of.*

(c) *Madras Tiruppur Scheme.*

This proposal involved an extension of the scheme from 16th August 1936 to 14th September 1937, the money asked for from the Committee amounting to Rs. 6,550. The Sub-Committee had recommended the extension subject to the Local Government providing a sum of Rs. 2,656 being the pay of the Business Manager for the second six months and 14 days of the scheme.

Since the opinion of the Madras Government regarding this condition could not be obtained before March 1937, it was decided that the matter should be brought to the notice of the Committee for decision at its next meeting.

The Report of the Agricultural Research Sub-Committee was adopted.

(Subject 69 (a) was discussed along with Subject 65.)

SUBJECT 70.—*Proposed New Research Schemes.*

(a) *Scheme for Breeding wilt resistant Cottons for Surat Area.*

The new scheme proposed by the Bombay Government for dealing with the wilt problem in Surat area was fully supported by the Agricultural Research Sub-Committee. The present cotton grown 1027 A.L.F. was very suitable to that area but it was very susceptible to wilt. It was, therefore, proposed to start a small scheme on some wilt infected land in the Surat area where wilt resistant types of

1027 *A.L.F.* or some other cotton of like character could be evolved. A cross of 1027 *A.L.F.* with *B.D.* 8 was suggested if the selection of wilt resistant type in 1027 *A.L.F.* was not found to be promising.

The Report of the Agricultural Research Sub-Committee was adopted.

(b) *Scheme for the Improvement of Dholleras Cottons.*

This scheme was proposed for the purpose of improving this cotton which covered all the area round about the Ahmedabad and Mehsana Districts and grown throughout Kathiawar. It was very mixed, some types being *Wagud*, with moderate staple and others *Mathia* with short staple. With reference to the point as to whether investigations on both cottons should be conducted at one station as suggested by the Indore Institute, or at two separate stations, the Sub-Committee decided that the work would be done better if conducted at two separate stations viz., at Viramgam which is the centre of *Wagud* cotton and at Amreli which is the seat of the *Mathia* tract instead of at Jamnagar where the conditions were not suitable for either of the types. Further to produce satisfactory results it was necessary that the scheme should be under one single control and this was provided for by arranging the work at Amreli being supervised by the Cotton Breeding Officer who would be stationed at Viramgam. The Sub-Committee also recommended that the Botanist and Geneticist at Indore should visit these stations at least once a year and report if there were any difficulties resulting from the working of the schemes by two different administrations. It was also suggested that the work which had been temporarily carried on at Jamnagar should be transferred to Viramgam and any Iran collections of *Herbaceums* which might be received should be sent to Viramgam. The sum of Rs. 900/- sanctioned by the Standing Finance Sub-Committee to carry on the work at Jamnagar upto the end of September was to be made available for the Jamnagar scheme till the work was handed over.

The Report of the Agricultural Research Sub-Committee was adopted.

(c) *Scheme for the Improvement of Kumpta Cotton in Hyderabad State.*

This scheme had been proposed by the Hyderabad State for the improvement of Kumpta cotton which covered about 300,000 acres. The Sub-Committee had gone into the details of the scheme very carefully and it had stressed that it was worth supporting.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 71.—*Proposed new seed distribution and extension schemes.*

(a) *Scheme for the Distribution of pure Verum cotton in the Mehker Taluq, Central Provinces.*

The Sub-Committee decided not to sanction Rs. 300 applied for from the Committee for propaganda purposes of seed distribution as it was felt that it would be creating a bad precedent by allotting sums

of money for touring purposes. The Sub-Committee thought that this amount should be borne by the Mehkar Taluq Association.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 72.—*Policy to be adopted by the Committee regarding apportionment of the cost of schemes during extension period.*

With reference to the expression of the opinion of the Committee sought by the Government of United Provinces regarding the increasing financial responsibility in respect of extension schemes financed by the Committee, it was pointed out that without knowing the extent to which Local Governments might be called upon to assume additional financial responsibility in respect of the renewal schemes, the budgeting officers would be faced with a certain amount of difficulty, even when a new scheme was to be launched some idea of a Government's future commitments was necessary. It was, therefore, suggested that a special Sub-Committee be appointed to consider this matter and accordingly report to the Agricultural Research Sub-Committee or to the Standing Finance Sub-Committee before the next meeting of the Indian Central Cotton Committee so that a definite policy should then be laid down. The *Vice-President* said that the Agricultural Research Sub-Committee this year did not take this question as it felt that it had no expert acquainted with the principles of finance to help it. He therefore moved the following resolution which was carried :—

RESOLUTION.—“ That a Special Sub-Committee consisting of the President, Vice-President, Dewan Bahadur Sir T. Vijayaraghavacharya, Dr. W. Burns, all Directors of Agriculture, Mr. R. G. Allen, Mr. Nizam-ud-Din Hyder and members of the Standing Finance Sub-Committee be appointed to report on the paper under Subject 72 of the Agenda and the policy which the Committee should adopt in connection with it.”

A Resolution recommending to the Government of Sind to undertake the installation of rural broadcasting in Sind was formally moved in the Committee but since the Committee was of opinion that although the proposed resolution was merely a recommendatory, the Committee had to make up its mind whether it would be prepared to vote funds if a request came from the Government of Sind as a result of the recommendation and possibly also similar requests from other Provinces would be received. That since merely recommendatory nature of the resolution might draw the Committee into fresh and uncalled for financial responsibilities that the resolution be withdrawn.

The Resolution was accordingly withdrawn.

A hearty vote of thanks to the Vice-President for the manner in which he had conducted the work both of the full Committee and of the various Sub-Committees was moved by *Dewan Bahadur Sir T. Vijayaraghavacharya*. The mover congratulated the Vice-President on the skilful way in which the subjects had been so easily disposed off. He thought that of all the meetings he had attended during the past six years this one had been specially remarkable for the manner in which it was so ably carried on by the Vice-President who combined

in himself the valuable qualities of a business man and of an official, qualities which are rarely found together. The vote of thanks was carried with acclamation.

The *Vice-President* in expressing his thanks for the vote of thanks said that he was grateful to all the members for the extremely cordial manner in which they had stood by him and in particular to the technical members of the Committee who had guided him so well through out the discussions.

SUBJECT 73.—*Report* of the Agricultural Research Sub-Committee :
IV. Reports of Technological Assistants.*

Reports of the various assistants had been carefully considered by the Director of the Laboratory and then by the Technological Research Sub-Committee, and were generally regarded as satisfactory. Various suggestions and criticisms would be communicated to the assistants concerned and the effect of these would be watched.

The Report of the Agricultural Research Sub-Committee was adopted.

V. Research Students.

The Sub-Committee considered that the training of Dr. Lal, who was doing research work on *jassid* attack on cotton plants and on the morphological character of the plants as related to the intensity or otherwise of the *jassid* incidence was being directed on right lines. His attention has been further directed to the general insect pests of cotton.

With reference to the appointment of the Assistant Entomologist in Sind at the Sakrand Research Station, it was decided that after enquiring about the ability of Dr. Lal from the officer under whom he was working, he may be appointed to that post if found fit and able to take charge and carry on independent research.

The Reports of the two students Messrs. G. B. Patel and N. Ahmad, were considered to be satisfactory.

The Report of the Agricultural Research Sub-Committee was adopted.

VI. General.

Renaming of Bikaner Gang Canal Scheme.

The Report of the Agricultural Research Sub-Committee was adopted.

Application from Mr. V. Ramanatha Ayyar, Cotton Specialist, Coimbatore, for financial aid from the Committee to visit World Cotton Centres and Research Stations :—

The Report of the Agricultural Research Sub-Committee was adopted.

Bengal (Comilla) Cotton Scheme—Purchase of a Compound Microscope.

The Report of the Agricultural Research Sub-Committee was approved.

Madras Pempheres and Physiological Scheme—Consideration of the orders of the Madras Government on the status of Mr. K. Dharmarajulu, Assistant Botanist.

The *Vice-President* remarked that it was probable that a job would be found for Mr. K. Dharmarajulu in Hyderabad.

The Report of the Agricultural Research Sub-Committee was adopted.

The following Resolution moved by the *Vice-President* was carried unanimously :—

RESOLUTION.—“ That the Report of the Agricultural Research Sub-Committee as amended be adopted.”

SUBJECT 74.—*Report* of the Standing Finance Sub-Committee.*

- (a) *Balance-sheet as at 31st March 1936.*
- (b) *Final Accounts 1935-36.*
- (c) *Revised Estimates, 1936-37.*
- (d) *Budget for 1937-38 (Government servants).*

With reference to the cost of cultivation of cotton and sugar-cane which the Committee were financing jointly with the Imperial Council of Agricultural Research, it was enquired as to whether any results were available.

The *Vice-President* said that the expenditure on the scheme was being borne by the Committee and the Imperial Council of Agricultural Research on a fifty-fifty percent basis and the Standing Finance Sub-Committee was watching the expenditure. As regards results, figures collected from all over India were being put together and a very interesting report would be received in another six or eight months and on receipt of the same, it would be placed before the Joint Committee.

The following Resolution moved by the *Vice-President* was carried unanimously :—

RESOLUTION.—“ That the Report of the Standing Finance Sub-Committee be adopted.

“ That the Balance-sheet as at 31st March 1936, be approved.”

“ That the Final Accounts for 1935-36 be approved.”

“ That the Revised Estimates for 1936-37 as now amended be approved.”

“ That the Budget for 1937-38 for Government servants be approved.”

The *Vice-President* in drawing attention to the last sentence of paragraph three of the report, said that in 1934 at his suggestion the Committee considered what should be the minimum balance which it should have as a reserve and decided that it should be Rs. 9 lakhs and a rider was added empowering the Committee to take a review of its finances and this was done as would be seen from the reports of the January 1934, and February 1935 meetings. According to the original estimate the balance which was expected to be carried forward on the 1st April 1936, was Rs. 12,78,674 but as it actually was

Rs. 25,24,131-9-1, he felt that an explanation was necessary for the wide divergence. He confessed that there had been a blunder in estimating the balance, but fortunately the blunder was on the right side and he took full responsibility for this. He explained that the extra 13 lakhs were made up as follows :—

	Rs.
Excess of Cotton Cess receipts over estimates	5,23,019
Profit on sale of Government Securities	1,96,788
Excess Receipts on account of interest and miscellaneous receipts	33,212
Savings due to reduction of expenditure in all schemes in operation	1,74,468
Provision made for schemes sanctioned but not started ..	3,17,970

The original estimates were on the conservative side and the large gain on the sale of Government Securities was not anticipated at that time. The expenditure provided for schemes sanctioned but which was not utilized as the schemes did not start had also to be considered. Against these gains there was an extra expenditure of Rs. 1,81,000 only in the closing balance for 1934-35, this accounted for the surplus.

SUBJECT 75.—*Award of Research Studentships at the Institute of Plant Industry, Indore.*

The *Vice-President* said that the only reason why the Committee wished to take away the power of appointing scholars from the Institute was because the Committee felt that the body which paid the scholars should also be the authority to appoint them. In order to avoid a break in the continuity of work done by the research scholars during their training a break caused by the scholars leaving the Institute when they got better posts, it was suggested that the Director be asked to appoint scholars temporarily for replacement in anticipation of the sanction of the Research Students Selection Sub-Committee. These appointments would be temporary subject to confirmation by the Research Students Selection Sub-Committee at its next meeting.

This was approved.

SUBJECT 76.—*Appointment of Government Servants as Superintendent in the Secretary's Office.*

The *Vice-President* said that this subject was placed before the full Committee as the Standing Finance Sub-Committee wanted some guidance from it in regard to the policy to be adopted for filling the appointment of the superintendent of the office. The question raised before the meeting of the Sub-Committee was as to whether a Government servant should be appointed to the post or he should be recruited from private employees. The view of the President was that as the Superintendent had access to all official correspondence, the person to be appointed should be one who knew the value of confidential matters. Further more the Committee had a greater hold on a Government servant as his pension and emolument were at stake. Hence it was thought that a person in Government employ was preferable.

On the other hand those advocating the appointment of a non-government servant held that the services of such person could be

had cheaper and also that a government servant could leave the Committee's services without any difficulty whenever he liked. Where as the Committee's servant would not be able to do so as easily and therefore the latter was preferable.

It was however felt that in view of the complicated nature of the rules and regulations of a Government office and to obviate the possibility of routine objections being raised, a Government servant who was already conversant with Government procedure should be appointed, thereby saving the trouble which was bound to be occasioned if a new man was given the chance.

The following resolution moved by the *Vice-President* was carried :—

RESOLUTION.—“ That in cases where a suitable person is not available from the staff for the post of Superintendent of the office, in making a new appointment a person in Government service may be preferred provided other qualifications are equal.”

SUBJECT 77.—*Plant Puller Propaganda Scheme in Baroda State—*

Application for additional grant. (Reference from the Standing Finance Sub-Committee.)

With reference to the request for an additional grant of Rs. 5,000 to cover the losses on the sales of plant pullers which were being sold below their cost price in order to enable them to be readily taken by the cultivators and Rs. 500 for supplementing the grant of Rs. 500 already made for giving rewards for stimulating the work, the *Vice-President* said that the Sub-Committee felt that before this additional grant was sanctioned details should be obtained from the Director of Agriculture, Bombay as to what amount was involved on losses in connection with the sale of plant pullers and also what amount was spent for rewards. After this information had been obtained, it would be placed before the Standing Finance Sub-Committee together with the Baroda proposals.

The Agricultural Research Sub-Committee's recommendation was approved.

SUBJECT 78.—*Inclusion of Northern and Western Cotton in the programme of work of dry farming scheme at Bijapur.*

The station at Bijapur was the sub-station of the main station at Sholapur and it was concentrating its work on the growing of crops in areas where rain was scarce. The suggestion for the inclusion of Northern and Western cotton it was pointed out would require a grant of Rs. 1,780. The suggestion was approved.

(Subject 79 was considered along with Subject 19.)

SUBJECT 80.—*United Provinces Cotton Pest Control Bill—Reference from the United Provinces Government.*

SUBJECT 81.—*Scheme for the Control of Pink Boll-worm in the United Provinces.*

(The above two subjects were discussed together.)

The United Provinces Cotton Pest Control Bill had been referred to the Indian Central Cotton Committee for an expression of opinion

by the Government, United Provinces. Subject 81 was a communication from the President who had taken a very keen personal interest in the Pink Boll-worm Control Research and in the proposals which were before the Committee. The following words of Sir Bryce Burt, in support of the scheme were quoted.

"I wish to record my further view that this is eminently a scheme which the Committee ought to support to the full extent of its ability for the following reasons :—

- (1) It deals with the successful application of the results of one of its own research schemes.
- (2) The practicability of effecting Pink Boll-worm control in the United Provinces by the heat treatment of seed has been abundantly established. The result is to increase the income from his cotton to the cultivator by anything from 40 to 100 per cent. according to season.
- (3) This is the most urgent thing required for cotton improvement in the United Provinces. Until Pink-Boll-worm control can be secured, other improvements in cotton growing are very largely held up.
- (4) This is the first example of legislation of this kind in India and much of the success of the scheme will depend on the provision of adequate staff to see that mistakes are not made in the early stages. For this staff a grant by the Committee is fully justified."

The Committee at this stage was requested merely to give expression as to whether it approved the Bill itself. It was not required to commit itself to any financial obligations as the Bill itself had been referred to a Select Committee and until it had been passed by the United Provinces Legislative Council it could not be said as to what assistance would be asked for from the Committee. The Bill itself had been worded in fairly general terms and the actual method of procedure in respect of treatment was left to be regulated by rules to be framed under the Act, as this allowed greater flexibility so that any change which future investigation or experience indicated to be necessary could be easily made. The Act was definitely in the interest of the cotton grower as the increased cash return from the yield of the crop free from Pink Boll-worm attack ranged from a minimum of 40 per cent. to a maximum of 130 per cent. The aim of the Act was to ensure that before the time within which unginned *Kapas* became dangerous and after ginning and before the seed passed out for commercial utilization it should be treated in such manner as might be prescribed under the rules which would result in the sterilization of the seed in so far as the Pink Boll-worm was concerned. The Upper India Chamber of Commerce which represented the major Indian and European Commercial interests in the United Provinces had expressed itself whole-heartedly in agreement with the Bill. With reference to an enquiry as to whether treated seed, either in the machine or exposed to the sun was distinguishable from the untreated seed by the ordinary grower it was replied that it was not so. This point was bound to present some difficulty to the local growers but since practically all the seed sown was from home ginned cotton it was expected

that the cultivator would sun-treat it himself. Seldom was it that the machine ginned seed was purchased and sown by the cultivator hence in practically every case only treated seed would be sown. Another question raised was as to whether heating did not cause damages to the germination of the seed and also whether after the seed has been once sterilized it was not susceptible to infection from the untreated seed. In reply it was stated that heating merely caused a loss of weight in the seed, this loss being due to the evaporation of a little water contained in it but it improved the germination qualities of the seed. The possibilities of reinfection was out of question as the Pink Boll-worm could not be expected to get into the stored bags of the treated seeds. During the discussion it was suggested that the loss of weight in the seed due to the heating treatment would raise the ginning charges but since the cultivator knew by experience that he would get 33 per cent. of lint and 67 per cent of cotton seed he would provide for a certain amount of loss in the weight of the seed and accordingly adjust his selling price so that he suffered no loss due to paying increased ginning charges. The plea for improving the short staple cotton in India was generally favoured by the Committee but it was pointed out that such improvement should not entail elimination from the United Provinces of the *Bengals* which had for a number of years been exported and liked by several countries. The improvement therefore it was, suggested should be made in the yield to give better benefit to the grower. The following resolution was then unanimously carried :—

RESOLUTION.—“ The Indian Central Cotton Committee welcomes the action of the United Provinces Government in submitting the United Provinces Cotton Pest Control Act of 1936, to the United Provinces Legislative Council and records its approval of the Bill.

“ The Indian Central Cotton Committee records its opinion that the proposed legislation is in the interest of the cotton growers and the cotton trade of the United Provinces and that effect should be given thereto as early as possible.”

SUBJECT 82.—*Estimation of the effects on the Cotton Crop of the use of Plant Puller.*

In order to get an estimate as nearly exact as possible of the benefits derived from the use of the plant puller, a simple scheme whereby an area that had been sub-compared with a new area costing only Rs. 2,149 had been put up. The comparison was being made on as scientific basis as possible by spreading the sample areas in 12 villages with five plots in each with a total of 60 plots in the cleared area and 60 plots in the uncleared area. It was further suggested that the point as to whether a plant puller interfered with the physical feature of the soil should also be ascertained.

The *Vice-President* moved the following resolution which was carried :—

RESOLUTION.—“ That the Report of the Director of Agriculture, Bombay Presidency, and the Commissioner of Agriculture, Baroda State, for a joint scheme for the estimation of the effects on the cotton crop of the use of the plant puller be adopted.”

SUBJECT 83.—*Cotton Cess in Burma after Separation.*

The *Vice-President* said that in order to help the Government of Burma during the transition period the President had suggested that the collection of the Cotton Cess should be carried on as at present and that the Committee would have nothing to do with the spending of the money but it would merely act as a collecting authority. The Reserve Bank had on their part already consented to help until the Burma Government settled down. He therefore suggested that the Committee should agree to the suggestion of the President who in his letter had formulated proposals by which Burmese cotton used in Indian Mills would not be charged the cess twice and the cess collected would be handed over to the Government of Burma. He moved the following resolution which was unanimously passed :—

RESOLUTION.—“ That the suggestion made by the President in his letter dated the 13th August 1936, be complied with.”

SUBJECT 84.—*Proposed application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to parts of the Bombay Presidency.*

The Cotton Ginning and Pressing Factories (Bombay Amendment) Act was passed with the proviso that it should be applied in the first instance only to Sind. Thereafter various representations were received by the Bombay Government to apply the Act in the Presidency proper. The Bombay Government now wanted the opinion of the Indian Central Cotton Committee whether it would be desirable to introduce the Act in parts of the Presidency and if so which ?

The general consensus of opinion was in favour of the application of the Act to certain parts. Moreover enquiries showed that malpractices in certain areas were on the increase as every one seemed to be taking advantage of the position in the belief that the Act would not be applied ; for example taking the case of the Dhulia Markets, the figures for the arrivals of cotton waste and fly had increased from 176 carts in 1934-35 to 370 carts in 1935-36. Further watering had increased definitely in Khandesh, Broach and the Southern Division.

The two points raised during the discussion were (i) that the word “ cotton ” as defined in the main Act included cotton waste, hence the application of the Act would not in any way check this malpractice, (ii) whether the Committee’s recommendation for the application of the Act should be restricted to Khandesh only or it should cover other parts also of the Presidency.

With reference to the first point it was suggested that fly and cotton waste of all kinds should be classed as “ foreign matter ” and as the main Act did not contain a definition of “ foreign matter ” and since the question had been referred to the solicitors for their opinion, the decision on this point should be left to the Government.

As regards the other point doubts were raised as to the advisability of applying the Act only to Khandesh as it was feared that such isolated application would entail hardships on the Bombay merchants unless the Act was so amended as to restrict the sending out of cotton from the particular district to other areas for ginning and pressing and also unless similar legislation had been enforced in the neighbouring States.

On the other hand, Khandesh was the one area where there was no danger of any clash with Indian States or other British territory and it could easily be dealt with as a compact area. Moreover, as Khandesh was situated on the borders of Bombay Presidency and Central Provinces which had just passed a similar Act, it was a suitable area for putting the Act into operation with advantage, as an experimental measure. Malpractices of watering and mixing had reached a fairly high level in this particular area. Hence the application of the Act to Khandesh was favoured.

The following resolution was unanimously passed :—

RESOLUTION.—“ This Committee is of opinion that it is necessary to extend the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to the districts of East and West Khandesh and other tracts particularly in view of the fact that the Central Provinces Government has only recently passed a similar Act.

“ The Committee also desires to draw the attention of the Government of Bombay that the Bombay Act as at present worded cannot prevent the mixing of cotton waste with cotton and therefore requests the Government of Bombay to take in hand the necessary amendment so as to prevent the mixing of cotton waste with cotton.

“ The Committee also requests the Local Sub-Committee to report as to other areas in the Bombay Presidency to which it would be desirable to apply the Act.”

Summary of Proceedings of the Special Sub-Committee on wider markets for Indian Cottons.

In order to find wider markets for the consumption of Indian cottons the method of getting in touch with the Board of Trade in England and with other important European countries, through the usual official channels for the purpose of obtaining statistics concerning the production of coarse yarns commended itself to the Sub-Committee and was to be pursued. Out of 22 countries and Commercial Associations, who were addressed on the subject only 10 had replied. A summary of the information obtained in this connection is given below :—

In the case of United Kingdom the production of yarn up to 20s was nearly 1,363,000 bales of 400 lbs. net each. Italy, China and Germany did not reply. In France in 1934 about 40,000 metric tons of coarse yarn were produced, this requiring about 253,000 bales of 400 lbs. each. Belgium using mostly Indian cotton required about 80,000 bales of 400 lbs. each for producing coarse yarn in the year ending 31st January 1935. Spain also uses mostly Indian cotton and requires about 70,000 bales annually. The U.S.A. consumes 3,880,000 bales of cotton 400 lbs. each, whereas Japan requires 1,946,000 bales of 400 lbs. each. About 57 per cent. of the yarn output of Japan was in counts of 1 to 20s. Poland imports about 27,000 bales of 400 lbs. each of raw Indian cotton, Holland imports on an average of 7,000 tons of British Indian cotton.

The Sub-Committee at its meeting held on the 15th of August 1936, considered it advisable that the Lancashire Indian Cotton Committee

should obtain and furnish details of yarn spun in the United Kingdom mills up to 24s counts in groups of 1s to 6s, 6s to 12s, 12s to 16s, 16s to 20s and 20s to 40s.

A resolution appreciating the efforts of the Lancashire Indian Cotton Committee to increase the use of Indian cotton and that there was still scope for further consumption of Indian cotton in United Kingdom was passed.

In order to keep the Sub-Committee in touch periodically with the state of foreign trade in Indian cotton, a proposal from the Director-General of Commercial Intelligence and Statistics for the appointment of an additional clerk in his Calcutta office for this purpose was accepted.

Summary of Proceedings of the Cotton Forecast Improvement Sub-Committee.

The Sub-Committee at its meeting held on the 14th of August 1936, decided owing to certain defects in the Bengal Report, to wait for some time longer for the results of the survey of weavers undertaken by the Board of Economic Enquiry, Bengal, which may throw some light on the question of extra factory consumption of cotton in the Province. In the case of Madras a similar investigation as embodied in the Madras Report was found to be made on a wrong basis, and the statistical officer of the Board of Revenue undertook to submit a revised report. With reference to the Hyderabad State, its report was approved. The Sub-Committee however decided to postpone discussion on extra factory or village consumption of cotton till the Secretary was able to present a complete All India Report on this subject.

The Secretary was asked to ascertain from the Provinces and States whether any change in date was necessary for publishing official forecasts and communicate the result to the Director General of Commercial Intelligence and Statistics.

The Sub-Committee recommended that a request be made to the Government of India to ask States to furnish monthly figures showing total cotton pressed, in terms of bales of 400 lbs. net, as in British India, to the Director General of Commercial Intelligence and Statistics. The Progress Report of the Bombay Cotton Crop Forecast Improvement Scheme for the year ending 1st June 1936, and programme of work for 1936-37 were approved.

R. D. MIHRA,
Publicity & Propaganda Officer.

RESOLUTIONS.

1. "The Indian Central Cotton Committee desires to express its very great regret at the sudden and tragic death of Dr. F. J. F. Shaw, and wishes to convey its most sincere sympathy to Mrs. Shaw and her family in their great loss.

*Appointment of Cotton Growers' Representatives of the
Committee to the Board of Directors of the East
India Cotton Association.*

2. "That Mian Nurullah, Mr. M. P. Kolhe and Sardar Rao Bahadur Bhimbhai R. Naik be appointed cotton growers' representatives of the Committee on the Board of Directors of the East India Cotton Association."

*Cotton Ginning and Pressing Factories Act—Bombay
Amendment Act, 1936 and the Central Provinces
Amendment Bill.*

3. "The Indian Central Cotton Committee places on record its satisfaction that the Governments of Bombay and the Central Provinces have passed legislation for the control of cotton ginning and pressing factories. The Committee has no doubt that this measure will go a far way in suppressing the malpractices which are detrimental to the interests of the cotton grower as they mar the fair name of Indian cotton both in India and abroad and it now desires strongly to impress upon the Governments concerned the desirability of bringing the Act into operation at the earliest possible date in those tracts where its application is indicated. The Committee further hopes that it will be given an opportunity of commenting on the rules to be framed by Local Governments before they receive legislative sanction."

*Application of the Bombay Cotton Ginning and Pressing
Factories (Amendment) Act to Sind.*

4. "The Indian Central Cotton Committee urges on the Government of Sind the necessity of taking very early steps to make the Cotton Ginning and Pressing Factories (Bombay Amendment) Act effective in that province by framing rules as early as possible before malpractices become established in the newly developed cotton tracts of that province."

*Second Annual Report of the Lancashire Indian Cotton
Committee.*

5. "That the Indian Central Cotton Committee notes with satisfaction the continued efforts of the Lancashire Indian Cotton Committee to extend the use of Indian cotton in Lancashire and trusts that the good work being done by that body will be of mutual advantage to both countries.

While appreciating the efforts made by the Lancashire Indian Cotton Committee to increase the use of Indian cotton and whilst expressing satisfaction that the figure of nearly 5 lakhs bales has been reached the Indian Central Cotton Committee desires to point out that from statistics of

counts of yarns of 20 and below produced in the United Kingdom the Committee believes that there is still much further scope for use of Indian cotton in the United Kingdom."

Half-yearly Report of the Publicity and Propaganda Officer.

6. "That the half-yearly Report of the Publicity and Propaganda Officer be approved."

Report of the Cotton Forecast Improvement Sub-Committee.

7. "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

Report of the Special Sub-Committee on Wider Markets for Indian Cotton.

8. "That the Report of the Special Sub-Committee on Wider Markets be adopted."

Progress Report of the Directors, Technological Laboratory.

9. "That the Progress Report of the Director, Technological Laboratory, be approved."

Report of the Technological Research Sub-Committee.

10. "That the Report of the Technological Research Sub-Committee be adopted.

"That an Expert Sub-Committee consisting of the President, the Vice-President, Dewan Bahadur Sir T. Vijayaraghavacharya, Mr. Saklatvala, Mr. Kasturbhai Lalbhai and the Director, Technological Laboratory, be appointed to consider applications and select a candidate for the appointment of Spinning Master at the Technological Laboratory and that the Standing Finance Sub-Committee be empowered to consider the report of the Sub-Committee and to make the necessary appointment."

Cotton Cess in Burma after Separation.

11. "That the suggestion made by the President in his letter dated the 13th August 1936, be complied with."

Estimation of the effects on the Cotton crop of the use of Plant Puller.

12. "That the Report of the Director of Agriculture, Bombay Presidency, and the Commissioner of Agriculture, Baroda State for a joint scheme for the estimation of the effects on the cotton crop of the use of the plant puller be adopted."

United Provinces Cotton Pest Control Bill.

- "The Indian Central Cotton Committee welcomes the action of the United Provinces Government in submitting the United Provinces Cotton Pest Control Act of 1936, to the United Provinces Legislative Council, and records its approval of the Bill.

The Indian Central Cotton Committee records its opinion that the proposed legislation is in the interests of the cotton

growers and the cotton trade of the United Provinces, and that effect should be given thereto as early as possible."

Appointment of Government servants as Superintendent in the Secretary's Office.

14. "That in cases where a suitable person is not available from the staff for the post of superintendent of the office, in making a new appointment a person in Government service may be preferred provided other qualifications are equal."

Report of the Agricultural Research Sub-Committee.

15. "That the Report of the Agricultural Research Sub-Committee as amended, be adopted."

Report of the Standing Finance Sub-Committee.

16. "That the Report of the Standing Finance Sub-Committee be adopted.

"That the Balance Sheet as at 31st March 1936 be approved."

"That the Final Accounts for 1935-36 be approved."

"That the Revised Estimates for 1936-37 as now amended be approved."

"That the Budget for 1937-38 for Government servants be approved."

Proposed application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to parts of the Bombay Presidency.

17. "This Committee is of opinion that it is necessary to extend the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to the districts of East and West Khandesh and other tracts particularly in view of the fact that the Central Provinces Government has only recently passed a similar Act.

The Committee also desires to draw the attention of the Government of Bombay that the Bombay Act as at present worded cannot prevent the mixing of cotton waste with cotton and, therefore requests the Government of Bombay to take in hand the necessary amendment so as to prevent the mixing of cotton waste with cotton.

The Committee also requests the Local Sub-Committee to report as to other areas in the Bombay Presidency to which it would be desirable to apply the Act.

Policy to be adopted by the Committee regarding apportionment of the cost of schemes during extension periods.

18. "That a special Sub-Committee consisting of the President, Vice-President, Dewan Bahadur Sir T. Vijayaraghavacharya, Dr. W. Burns, all Directors of Agriculture, Mr. R. G. Allen, Mr. Nizam-Ud-Din Hyder and members of the Standing Finance Sub-Committee be appointed to report on the paper under Subject 72 of the Agenda and the policy which the Committee should adopt in connection with it."

APPENDIX I.

SUBJECT 7.—*Amendments to the Madras Commercial Crops Markets Act.*

Secretary's Note.

The attached two amending Acts to the Madras Commercial Crops Markets Act, passed by the Madras Legislative Council in March 1936, are for information.

First Amending Act.—The original Act required that out of the twelve members of the Market Committee, two shall be nominated by Government and the rest shall be elected. The first amendment Act, now passed, allows Government the power to appoint all the members of the Market Committee, when a Market Committee is to be established for the first time. This ensures that no time is lost in connection with elections before a Market Committee is brought into existence. This Act further confers on Government the power to alter the limits of the notified area.

Second Amending Act.—The Select Committee which considered the draft Bill relating to the Madras Commercial Crops Markets Act observed that ginning factory owners and *mundy* merchants were performing useful functions and that in any legislation for the regulation of sales and purchases in any local area such persons should be recognised by the issue of licences to continue their business. The original Act did not require ginning and pressing factory owners to take out licences as their premises are not primarily places for purchase or sale though purchases and sales very often take place there. The second Amendment Act now passed makes it obligatory on the ginning and pressing factory owners to take out licences under the Act. It further provides for dealing with the continued absence of members of the Market Committee from its meetings. A member shall cease to hold office if he absents himself from three consecutive meetings of the Committee.

This is for information.

APPENDIX II.

SUBJECT 9.—*Cotton Ginning and Pressing Factories Act—Progress made in Indian States :—*

- (a) *Khairpur State.*
- (b) *Maliya State.*

Secretary's Note.

Since the meeting of the Committee held in August 1933, the following further information has been received regarding the progress made in Indian States in the introduction of legislation on the lines of the Indian Cotton Ginning and Pressing Factories Act and Rules.

Khairpur.—The provisions of the British India Act No. XII of 1925 have been made applicable to the State from 1st March 1936 and Rules under Section 13 of the Act have been framed.

Maliya.—The Durbar framed a set of Cotton Ginning and Pressing Factories Rules which came into force in October 1935. Some of the Rules were found to be defective in certain respects and necessary action has been taken to get them amended.

The present position is that 67 States have now enacted legislation on the lines of the British India Act, and from sixty States weekly press returns are being received.

APPENDIX III.

SUBJECT 11.—*Amendment of Form 'A' prescribed under Rule 16 of the Indian Cotton Cess Rules, 1923.*

Secretary's Note.

On the recommendation of the Cotton Forecast Improvement Sub-Committee, the Indian Central Cotton Committee, at its meeting in August 1935, decided to request the Government of India to amend, for statistical purposes, Form A prescribed under Rule 16 of the Indian Cotton Cess Rules, making it obligatory on mills to supply in their monthly returns separate figures for pressed and unpressed cotton consumed in them. Chambers of Commerce and Trades Associations consulted were also in favour of the proposal. The Government of India have since given effect to the recommendation of the Committee and they have also taken steps to address Indian States concerned. It is, therefore, hoped that from the ensuing cotton season complete and reliable statistics of unpressed cotton consumed in mills in India will be available.

This is for information.

APPENDIX IV.

SUBJECT 13.—*Report on the fumigation of American cotton.*

Secretary's Note.

A note on the fumigation of American cotton accounts for the year ending 31st March 1936 is attached. Though the year's working shows a profit of Rs. 25,079-13-11 no rebate is being proposed as a new barge is being purchased this year. It may also be mentioned that last year the loss incurred by Government in connection with fumigation amounted to Rs. 1,533.

Permanent reduction in fumigation fees.—In pursuance of the recommendation of the Indian Central Cotton Committee at its meeting held on the 29th August 1933, the Government of India reduced the fumigation charges from Rs. 3-1-0 to Rs. 2-7-0 per square bale, and from Re. 1-13-0 to Rs. 1-8-0 per round bale with effect from 1st April 1934, as an experimental measure for a period of two years in the first instance. When addressing the Government of India the Committee at the same time expressed the view that the practice of giving rebates on fumigation fees should be discontinued, but the Government of India considered that although there might be no occasion for granting rebates, the principle should not be abandoned as it satisfies the trade that the Government were not making any profit but were anxious only to ensure that the scheme was self-supporting.

The Indian Central Cotton Committee at its meeting held on the 13th January 1936 examined the accounts for the experimental period of two years from 1st April 1934 and endorsed the recommendation of the Standing Finance Sub-Committee that the Government of India might be requested to make permanent the reduced rates for the fumigation of American cotton of Rs. 2-7-0 per square bale and Re. 1-8-0 per round bale. The Government of India were accordingly addressed and they have since passed the necessary orders.

Renewal of Agreement between the Bombay Port Trust and Messrs. Cooper Landing Co.—The Standing Finance Sub-Committee at its meeting held on 31st July 1936 considered a letter from the Docks Manager, Bombay Port Trust, suggesting the renewal of the agreement between the Bombay Port Trust and Messrs. Cooper Landing Co., the contractors for the transportation and landing of American cotton, which is due to expire on the 31st August 1936, and decided that with a view to obtain competitive rates fresh tenders should be invited for the lighterage contract.

APPENDIX V.

SUBJECT 14.—*Half-yearly Report of the Publicity and Propaganda Officer.*

The Indian Central Cotton Committee's Publicity and Propaganda Department has made steady progress during the period covered by this report, in interpreting and broadcasting to the public both in India and abroad, the facts and recommendations arising out of scientific research work carried on under the auspices of the Committee.

Important and wide in range as this informational activity of the Publicity Department is, an even more important aspect of its work has been the successful collaboration with the Bombay and Baroda Departments of Agriculture in furthering their Anti-Goghari Propaganda among the cultivating and merchant classes, with a view to calling their pointed attention to the beneficial effects of carrying out the recommendations of their Governments as embodied in the Cotton Control Bills passed by their legislative bodies.

Other forms of propaganda consisted in participation in the Rural Life and Industrial Exhibition at Baroda, organized in celebration of H. H. The Gaekwar's Diamond Jubilee. In this Exhibition, cotton exhibits from the Indian Central Cotton Committee's Laboratory at Matunga, kindly lent by the Director, coloured posters, and the distribution of illustrated literature, etc., drew attention of visitors to the important work the Committee was doing for the improvement and development of cotton industry in India.

The occasion also helped in preparing a way for more intensive propaganda efforts for the elimination of *goghari* in the Surat district and the adjoining territories of Baroda State.

Press Publicity.

The Press had been the main vehicle of publicity and newspapers both in English and vernaculars have been utilized to bring home to the public the purpose of the Committee's diverse programme and the increased opportunities provided for the progressive improvement and development of cotton industry in India.

The following *communiqués* were issued :—

(1) *Report of the 32nd half-yearly meeting of the Indian Central Cotton Committee.*—A Press *communiqué* was issued as usual on the important discussions at the meeting of the Indian Central Cotton Committee held on the 13th and 14th January 1936.

(2) *Improved varieties of cotton in Sind and their cultivation.*—This was a review of the leaflet prepared by the Agricultural Department in Sind. It discussed the recommendations and gave practical advice to the cotton growers in Barrage areas in Sind regarding the best and most suitable varieties of improved cotton for those areas, the three main classes of cotton found successful in Sind including *Sind Sudhar* which in view of its yield and general utility was specially recommended for adoption in this area.

(3) *Review of last year's developments.*—This is a review of the Annual Report of the Indian Central Cotton Committee during the year ending 31st August 1935. It dealt with the activities and achievements of the Committee in the development of India's premier industry particularly in the direction of growing long and medium staple cottons in the present short staple cotton areas, legislative measures for better growing and marketing of cotton, agricultural and technological research.

(4) *Seed distribution and extension schemes.*—This *communiqué* dealt with the impetus given by the formation of the Indian Central Cotton Committee to the production of good staple cottons. Short descriptions were given of the various seed distribution and extension schemes launched in different parts of India for the improvement of cotton, such as at Sind, Surat, Hubli, Gadag, Khandesh, Central Provinces, Baroda, Salem and Coimbatore.

(5) *Improvement of cotton in India.*—This press note was issued to draw attention to the Anti-Goghari propaganda Campaign which followed the passage of Bombay Cotton Control Bill in 1935 through the Bombay Legislative Council. The Baroda State had also a similar legislative measure in the making.

(6) *Review of the brochure on cotton research in India.*—This was an introductory note to the brochure describing the Indian Central Cotton Committee's technological laboratory's work during the 10 years of its existence. The note was supplied along with the brochure to enable the editors of leading papers to see at a glance the main heads of the Laboratory's work and to help them to detailed study and informed comment.

(7) *Effects of storing cotton bales in the open and inside a shed at Karachi.*—This dealt with the investigation conducted by the Director, Technological Laboratory, into the effects of storing cotton bales in the open and inside a shed at Karachi and explained his findings which subsequently resulted in the recent provision of an adequate number of godowns or sheds to store the cotton bales at Karachi.

(8) *Successful Bikaner Experiments.*—This press *communiqué* gave a short sketch of the combined efforts made by the Bikaner Darbar and the Indian Central Cotton Committee towards the improvement of cotton growing in the Gang Canal areas, the selection and hybridization work conducted at the Sriganganagar Farm and the multiplication of selected *Desi* cottons found to be most suitable for the soil and climatic conditions of the areas.

Pamphlets and Other Publications.

"The Indian Central Cotton Committee; Its Objects, Activities and Achievements."—In order to reach a wider public, this pamphlet was translated from English into the provincial languages such as Marathi, Gujarati, Urdu, Hindi, Tamil and Telugu. It contains descriptions and illustrations of all the outstanding activities of the Committee. Copies are in the press and will be made available for distribution.

To help forward the Anti-Goghari Propaganda campaigns in the Surat district and the adjoining territories of the Baroda State, English and Gujarati versions of the pamphlet entitled *"Elimination of Goghari from the Surat tract will re-establish the reputation of Navsari cotton"* were brought out and a very large number of them along with the handbills in English and Gujarati were utilised.

"The Spotted Boll-worms (Earias Fabia and Earias Insulana) in South Gujarat."—This was a popular thoroughly illustrated edition of the bigger scientific monograph published by the Imperial Council of Agricultural Research, many of the illustrations having been supplied by the Bombay Department of Agriculture. Copies together with an advance notice of the monograph were distributed to all the agricultural and scientific bodies and associations both in India and outside and to all the individuals who usually receive the publications of the Department.

"Summary Proceedings of the last meeting of the Indian Central Cotton Committee."—This was an impersonal summary setting forth the main points brought out during discussions without mentioning the names of the speakers.

A handy illustrated pamphlet has been drafted, setting forth the aims and achievements of the Indian Central Cotton Committee, for distribution during the forthcoming Agricultural and Industrial Exhibition at Lucknow.

Posters.

The four-coloured poster specially prepared to help forward the campaign for the elimination of *Goghari* from the Surat and Baroda tracts entitled "Get rid of the weight" was a vivid picturization of the handicap which *Goghari* constitutes to the cultivators' effort to obtain better prices for his product. An old Indian cultivator shown toiling up steep steps towards the goal of "better prices" is held back by the dead weight representing *Goghari* cotton chained to his feet. The picture lends point to the exhortation to get rid of *Goghari* the short staple variety of cotton grown in Surat and Baroda which is greatly responsible for the deterioration in the quality of 1027 A.L.F.

Photo prints were taken of this poster and distributed among the leading papers along with an explanatory note. Many important dailies gave full publicity to it.

The preparation of a suitable poster for *B. D. 8 cotton in Gujarat* was taken in hand, but on the advice of the Director of Agriculture, Bombay, who pointed out that propaganda for *B.D. 8* was premature as the Department did not have sufficient seed, the work on the new poster is suspended.

A Placard explaining the gist of legislative measure prohibiting the growing of *Goghari* and directing the growers to obtain pure seed of 1027 A.L.F. from nearest Government Depots was also prepared in English and Gujarati in this connection. A large number of placards were distributed which proved very useful.

Exhibitions.

There are no better mediums than exhibitions and fairs in the civilised countries all over the world as the most effective and important means of knowing how far and in what manner the industries and commerce of a nation are able to meet the demands of its life; whether articles manufactured for the use of a people are of the right quality and type. They convey the boundless wealth of the natural resources of a country, the stage of development reached and the limitless range and scope that exists for fresh efforts, opening to them opportunities for buying their requirements profitably in the market as well as exporting finished products and raw materials.

The Rural Life and Industrial Exhibition, organised as part of the Maharaja Gaekwar of Baroda's Diamond Jubilee celebrations which lasted from 1st to 14th January 1936, represented a true picture of life springs of agricultural, commercial and industrial development made in that part of the country and an object lesson for the systematic dissemination of those facts which are of the greatest value to the producer, the consumer and the distributor.

The Exhibition attracted thousands of visitors, farmers, merchants, manufacturers and members of every class of society.

Occupying as it did an extensive maidan, the Exhibition was able to accommodate hundreds of stalls. The Agricultural Section was arranged in an excellent manner. Almost all branches of Agricultural Department's activities were exhibited. It was here side by side with the show of the Agricultural Department that a stall of the Indian Central Cotton Committee was organised in a striking manner to fulfil a mission of no small significance namely to make known to the public the imminent part the Indian Central Cotton Committee was playing in the agricultural and industrial advancement of the country.

In arranging exhibits the staff of the Publicity Department worked hard, giving constant thought and unremitting attention. The layout of the Publicity and Propaganda material and of the cases containing technological exhibits of standard Indian cottons detailed below and interior decorations proved very interesting as well as instructive :—

- | | |
|------------------------------------|----------------------|
| (1) Jayawant (Kumpta) | (Bombay). |
| (2) Gadag 1 (Dharwar-American) | " |
| (3) Surat 1027 A.L.F. | " |
| (4) Wagad 8 (Dholleras) | " |
| (5) Banilla | " |
| (6) Umri Bani | (Hyderabad). |
| (7) Verum 262 (Nagpur) | (Central Provinces). |
| (8) Nandyal 14 (Northern) | (Madras). |
| (9) Hagari 1 (Western) | " |
| (10) Cambodia Co. 2 (Cambodia 440) | " |
| (11) Punjab-American 4F. | (Punjab). |

Details of exhibits.

1. Card sliver.
2. $\frac{1}{2}$ Hank yarn knot (2 of each).
3. Yarn Bobbins (4 of each).
4. Black winding card.
5. Halo Length Cards.

In addition representative samples of improved and *deshi* cottons, and a wider range of seed cottons, were also on view. A descriptive card was attached to each, bearing the name of exhibit, locality of growth and particulars of staple. These were supported by notes showing sowing dates, and multiplication schemes, pictorial

displays, charts and graphs, posters in English, Gujarati, Marathi and Hindi and art photographs. Many of the publications of the Publicity Department, especially the thoroughly illustrated pamphlet prepared for the Anti-Goghari Propaganda campaign in Surat and Baroda, the posters and the handbills were judiciously distributed to those directly interested in the exhibits. Short discourses and talks were given on cotton subjects, propaganda in respect of eliminating *goghari* from the Surat district and the adjoining territories of the Baroda State, in which the interest of cultivating classes mainly lay, and on the usefulness of work which is carried on at the Technological Laboratory, Matunga, in the interest of the cultivator and the cotton trade. Correct and scientific knowledge regarding research schemes of the Indian Central Cotton Committee was imparted, enquiries covering all exhibits from businessmen to promote trade contacts and seeking further information were answered.

There was a great demand for publicity pamphlets and perhaps five times the number could easily have been distributed to advantage, had more copies been available. For reasons of cost, however, a limited supply had to be provided.

To what extent the participation of the Publicity Department of the Committee had contributed to the arousing of interest in the various activities of the Indian Central Cotton Committee for improvement and development of cotton industry in India is a matter which cannot be measured. The objects aimed at were educational and not directly propagandist or commercial. The Committee's participation was a great success and numerous comments were heard from cotton interests and the general public who thronged the stall and said that they little knew that the Indian Central Cotton Committee was doing such useful work for the grower and the trade, that so noticeable an improvement had already been achieved in the quality of cotton and that such great schemes were being financed by the Committee for the extension of improved varieties of cotton. In fact the Publicity Stall, without exaggeration, proved to be a great educational agency in the dissemination of knowledge of the Committee's outstanding activities at a comparatively small cost.

2. *All-India Industrial Exhibition, Delhi.*—In March last the Honorary Secretary of the above Exhibition informed us of the organisation of it and asked for a supply of posters to be exhibited in the stalls and pamphlets and other publicity material for distribution among the visitors to the Exhibition. A sufficient number of posters, pamphlets and other publications which were considered to be of use in Northern India were placed at his disposal. The Secretary in a letter on the usefulness of posters and literature of the Department, said "the posters were interesting and always there were a big crowd at places where the posters were being displayed. The literature also seemed to have effected good results because it contained valuable information and people liked to receive the literature with great interest."

The Publicity Officer who at the time was engaged in the preparation of propaganda material for Surat and Baroda campaigns was unable personally to take part in the Exhibition.

3. *The United Provinces Agricultural and Industrial Exhibition.*—The Director of Industries, United Provinces—the Secretary of this Exhibition which is proposed to be organized on a very grand scale—wrote to the Committee regarding the objects of the Exhibition and the advantages to the Committee in participating in it. The Exhibition which is to be opened during the first week of December next will continue for about two months.

Publicity Department has decided to take advantage of this occasion and is preparing literature for distribution to visitors at this Exhibition.

Surat and Baroda Anti-Goghari Propaganda Campaigns.

In pursuance of the decision taken by the Committee at its last meeting to pursue propaganda work against *Goghari* in the district of Surat and Navsari Prant, following on the passage of the Bombay Cotton Control Bill of 1935 and a similar Bill penalising *Goghari* cotton in Baroda, the Publicity Officer devoted a large portion of his time in the preparation of illustrated pamphlets, the anti-Goghari poster "Get rid of the weight" which was designed in consultation with the Director of Agriculture, Bombay, and the *Times of India* Poster Artist, placards, etc., to help forward the campaign and extend it to villages.

Rightly alert to the much desired elimination of inferior *Goghari* the officers of the Agricultural Departments of Bombay and Baroda had before the big drive was launched carried on in the past the educational work in territories south of Nerbuda river, from Ankleshwar to Billimora, Uyara and Anaval in the Surat district and in the Navsari Prant in the Gaekwar's territory, inducing cultivators to grow the pure 1027 *A.L.F.* type, in wake of the pioneering attempts of Sir Purshotamdas Thakurdas who was the first to stress the need of putting a complete stop to the growing of *Goghari* and to seek Government's co-operation in enforcing measures to that effect. But in spite of it, *Goghari* assumed alarming proportions in some villages of Jalalpur taluqa and Navsari Prant, possibly its growth was encouraged by ginowners who mixed this short stapled variety with the superior 1027 *A.L.F.* which is longer by 25 per cent. in staple and has better spinning performance, and palmed off the mixture as pure Navsari cotton to get better prices. This spoiled the reputation of Surat cotton with the result that trade lost confidence and prices declined.

With the passage of anti-*Goghari* bills the officers of the Agricultural Departments called several meetings of cultivators, representative of ginowners, cotton merchants, commission agents and others at which were explained the evil effects of growing *Goghari* and mixing it with 1027 *A.L.F.* and how it affected all interests concerned, the clauses of the legislative measures enacted for the betterment of cultivators, trade, etc., and the necessity of keeping the seed of *Goghari* separately, of exporting it to Kathiawar or using it for feeding cattle.

Supplementing the above efforts, the Publicity Officer of the Indian Central Cotton Committee, accompanied by the Cotton Superintendent, Surat, and Cotton Officer, Navsari, and the staff, carried out a campaign of propaganda, visited a large number of centres and villages in the British and Baroda territories, addressed meetings of growers and interviewed ginowners, merchants and commission agents, export firms to unify the thinking and action, acquainting them with facts about *Goghari*, the disadvantages of mixing the two varieties, the necessity for checking the evil, provisions of the Acts and their basic object designed to improve the economic condition of the interests concerned by increasing the net return for cotton which was their mainstay and brought them more than 30 lakhs of rupees per year for their output of 1½ lakhs of bales from the cotton tract South of Nerbuda river; the work of the Indian Central Cotton Committee's schemes to improve and develop cottons in Surat and Baroda and their active co-operation in its endeavour to establish the reputation of the *Navsari cotton* which was highly prized in India and abroad for its fine long staple.

The task of getting the cultivators to stop growing *Goghari* was colossal. It meant the displeasure of ginning interests, the formulation of new policy giving actual effect to it and the broad principle involved. One of the most important step was to plan and get under way far reaching propaganda campaign, designed to reach every grower and ginner of *Goghari* whom it was possible to reach, and to convince them of the advantages of keeping 1027 *A.L.F.* pure.

By giving talks, by issuing literature, displaying posters, distributing placards and by personal interviews and other available mediums, public opinion in favour of the measures was successfully mobilized which contributed towards better understanding of the concerted action of the Departments of Agriculture and the Indian Central Cotton Committee even in remote villages.

The co-operation of the Press to help forward the campaigns was note-worthy. Interviews to the press correspondents were given and these resulted into the *Times of India* reproducing the poster "Get rid of the weight" with a descriptive note regarding the poster and an account of the work which was being done in Surat and Baroda for the improvement of cotton.

The *Gujarati* of Surat and *Sayaji Vijaya* an official organ of Baroda State besides reproducing the poster wrote leading articles in support of the campaign. An account of the activities of the Committee's Publicity and Propaganda Officer in the affected areas was also published.

Literature was supplied to the Press and by these means a good press and general publicity was secured.

The programme of the campaigns was immediately successful and the response from the interests connected with cotton was very fine and encouraging.

Demand for Publicity Literature, Enquiries, etc.

The Department's publications were as usual in great demand; the following are some selected from the numerous requisitions received from centres like Ahmedabad, Delhi, Lahore, Bengal, Indore, Sind, Akola, Madura and Cuddalore applying for sets of them. Enquiries were also received from the Governments of Sudan and Siam for posters and other publications of the Department. An interesting enquiry worthy of special mention emanated from the Agricultural Commissioner for the United States Department of Agriculture in Bombay who asked for press *communiqués*, publications of the Department, reprints of the special articles prepared by the Publicity Officer for different journals in India and outside, and asked many questions regarding Committee's activities in the direction of improvement and extension of Indian cottons.

Another enquiry came from Bapatla for the supply of illustrated pamphlets and special articles written by the Publicity Officer on the subjects of cotton for incorporation in a proposed educational publication. His request was duly complied with and every facility, advice and information was afforded.

The Chief Agricultural Officer in Sind asked for information on the shooting of films for Agricultural Propaganda and publicity and the probable cost of preparation of such films and a complete set of the movie with a loud speaker. The information was collected from Messrs. Kodak & Co., Ltd., on behalf of the Chief Agricultural Officer and contact was established between him and the firm. In pursuance of his 5 years' programme of development of the work of Agricultural Department in Sind, the Chief Agricultural Officer enlisted the help of the Committee's Publicity and Propaganda Officer in furnishing suggestions with regard to the preparation of posters illustrating the following :—

- (a) Results of good, as compared with careless picking of cotton.
- (b) Benefit of cultivating 'rust' resistant varieties of wheat.
- (c) Benefits of transplanting rice in comparison with broadcasting.
- (d) Economy in use of irrigation water.

Sketches were accordingly prepared in consultation with a Poster Artist and these were sent to the Chief Agricultural Officer to further his plans for propaganda.

Dr. J. J. Chinoy applied for copies of literature with special reference to cottons such as 4F, 42F, 289F and L.S.S. and also other varieties grown in Punjab and Bombay. He indicated keen desire for further information in this connection. Copies of pamphlets were supplied and full information given.

The publications of the Department have attracted the attention of the All-India Congress Committee, Allahabad, who asked for a list of the periodical literature meant for free distribution.

The Member-in-Charge, All-India Village Industries Association, Punjab Branch, asked for the posters published by the Department and his request was complied with.

The Editor of the *Sind Sudhar*, Karachi, wrote asking for the supply of all publications relating to cotton for his paper. The name of the paper was placed on the distribution list.

Publicity and Propaganda Officer's Tours.

During the half-year under report the Publicity and Propaganda Officer paid visits to Poona, Surat, Baroda and Navsari and toured through many important centres and villages of the Surat district and the Navsari Prant. Such journeys helped him to keep in touch with cotton interests and opinions and by virtue of his office also to contribute towards a better understanding of the Committee's work for the improvement of cotton in India, carry on field propaganda in the districts, and to offer them the services of the Department in this respect. With the help of the officers of the Departments of Agriculture, Bombay and Baroda, the Publicity and Propaganda Officer followed a rationally adjusted working plan for the campaigns that made the most effective success, as reflected in the earlier pages of this report.

R. D. MEHA.

APPENDIX VI.

SUBJECT 19.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Sub-Committee met at 3 p.m. on the 14th August 1936.

The Sub-Committee considered the note on the reports of enquiries into the village or extra-factory consumption of cotton, which is also on the agenda of the full Committee (Subject 17) and made the following recommendations :—

Bengal.—As the defects pointed out by the Committee in the Bengal Report have not been remedied, the results of the survey of weavers undertaken by the Board of Economic Enquiry, Bengal, which may throw some light on the question of extra-factory consumption of cotton in the Province might be awaited.

Madras.—In the case of the Madras Report, the basis on which the total extra-factory consumption of cotton for the whole of the Presidency has been arrived at appears to be defective. In the absence of the Director of Agriculture, Madras, the Statistical Officer of the Board of Revenue, Madras, has agreed to go into the matter in consultation with the Director of Agriculture, and submit a revised report, if necessary.

Hyderabad State.—The Report of the enquiry in the Hyderabad State might be approved.

The Sub-Committee also recommends that further discussion on the subject of extra-factory or village consumption of cotton should be postponed till the reports on the enquiries in Bihar and Sind are received, and a consolidated report on an all-India basis is put up by the Secretary for consideration.

The Sub-Committee considered a note on the post-mortem examination of the cotton forecasts of 1934-35 season for the Madras Presidency and recommends that the forecast authorities of the Provinces and States should be requested to utilise, at their discretion, cotton crop estimates of commercial firms for adjusting the official forecast figures.

The Secretary should also ascertain from the trade and the forecast authorities of the Provinces and States, whether any change is necessary in the present dates of publishing the official forecasts, and communicate the result to the Director-General of Commercial Intelligence and Statistics.

The Sub-Committee considered the desirability of publication of monthly statements of cotton pressed in Indian States in terms of statistical bales of 400 lbs. net, as for British India, and recommends that the Government of India should be moved to address the States concerned to furnish the necessary figures to the Director-General of Commercial Intelligence and Statistics.

The Sub-Committee recommends that the Progress Report of the Bombay Cotton Crop Forecast Improvement Scheme for the year ending 15th June 1936 and the programme of work for 1936-37 be approved.

A preliminary note on the accuracy of the all-India cotton forecasts of 1935-36 season was considered by the Sub-Committee and recorded.

P. H. RAMA REDDI.

APPENDIX VII.

SUBJECT 21.—*Report of the Special Sub-Committee on Wider Markets for Indian cotton.*

The Sub-Committee met at 10.30 a.m. on the 15th August, 1936.

The Sub-Committee considered the attached note on the production of coarse yarn in the world's mills and suggests that the Lancashire Indian Cotton Committee be asked to obtain and furnish details of yarns spun in the United Kingdom mills up to 24s counts in groups of 1s to 6s, 6s to 12s, 12s to 16s, 16s to 20s and 20s to 24s. The Sub-Committee also recommends that the following resolution passed by it be forwarded to the Government of India for consideration at the

time of the trade negotiations between India and the United Kingdom and suggests that the details of yarn spun to be obtained from the Lancashire Indian Cotton Committee be forwarded to the Government of India on receipt :—

RESOLUTION :—“ While appreciating the efforts made by the Lancashire Indian Cotton Committee to increase the use of Indian cotton and whilst expressing satisfaction that the figure of nearly 5 lakhs has been reached the Indian Central Cotton Committee desire to point out that from statistics of counts of yarns of 20 and below produced in the United Kingdom the Committee believe that there is still much further scope for use of Indian cotton in the United Kingdom.”

The Sub-Committee considered the note on the submission of periodical reviews of the state of foreign trade in Indian cotton, which is also on the agenda of the full Committee (Subject 20) and recommends that the proposal of the Director-General of Commercial Intelligence and Statistics for an additional clerk in his Calcutta office at the cost of the Committee might be agreed to. As regards the financial aspect of the proposal, the Secretary might settle the exact amount required and other details after consulting the Bombay Millowners' Association who are understood to have a similar arrangement with the Director-General of Commercial Intelligence and Statistics.

The Secretary's note on the present position of the Indo-Japanese Trade Agreement was recorded.

The papers on the decreased consumption of Indian cotton in foreign countries, viz., China and Germany, were recorded.

P. H. RAMA REDDI.

APPENDIX VIII.

SUBJECT 22.—*Technological Research—Progress Report of the Director, Technological Laboratory.*

SUMMARY OF PROGRESS REPORT NO. 26 OF THE DIRECTOR, TECHNOLOGICAL LABORATORY, FOR THE PERIOD FROM 1ST NOVEMBER 1935 TO 31ST MAY 1936.

The present report contains an account of the work done at the Technological Laboratory from 1st November 1935 to 31st May 1936. The work done during this period will be described under the following heads :—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. SPINNING LABORATORY.

The following table gives in a summary form the number of samples received from different sources for spinning, fibre or yarn tests during the period under review, together with the figures for the corresponding period of last year for purposes of comparison :—

TABLE I.

	1st November 1935 to 31st May 1936.	1st November 1934 to 31st May 1935.
Agricultural Departments	217	246
Standard Cottons	26	18
Trade Samples	33	32
Fibre Test Samples	55	62
Yarn Test Samples	39	7
Special Test Samples	69	69
Total ..	439	434

It will be seen that the total number of samples received for tests shows a small increase over the corresponding period of last year. This increase is most pronounced in the case of samples on which yarn tests were carried out, as will be seen from the fact that no less than 39 samples were received as against 7 for the corresponding period of last year. As these samples are mostly received from the mills and firms and are tested on payment of fees laid down by the Committee, this remarkable increase shows the rapidly growing confidence of the trade and the industry in the work of the Laboratory.

The number and distribution of samples, lots and counts spun during the period under review are given in Table II below, together with the figures for the corresponding period of last year :—

TABLE II.

—	Samples.		Lots.		Counts.	
	1st November 1935 to 31st May 1936.	1st November 1934 to 31st May 1935.	1st November 1935 to 31st May 1936.	1st November 1934 to 31st May 1935.	1st November 1935 to 31st May 1936.	1st November 1934 to 31st May 1935.
Bombay	29	44	29	44	90	133
Punjab	41	20	41	20	122	63
United Provinces ..	11	7	11	7	35	21
Madras	8	..	8	..	24	..
Central Provinces ..	5	4	5	4	15	14
Miscellaneous ..	61	49	61	49	180	142
Total	155	124	155	124	466	373
Standard	23	11	46	22	162	122
Trade Tests	30	25	30	25	88	74
Technological Tests	76	40	89	62	374	336
Grand Total ..	284	200	320	233	1,090	905

A comparison of the figures for the current and last year shows an increase of 42 per cent. in the number of samples tested and an increase of 37 per cent. and 20 per cent. respectively in the number of lots and counts spun. So far as the increase in the number of samples is concerned, it is shared by all types of samples, namely, agricultural, trade and technological. These figures are an index of the general speeding-up of the work of the Laboratory in order to cope with the ever increasing demands made on its resources by the cotton breeders as well as the trade.

The samples which are tested at the Laboratory form the subject of various types of reports, namely, spinning, fibre and yarn test reports. Table III below shows the number of such reports issued during the period under review together with the figures for the corresponding period of last year for purposes of comparison :—

TABLE III.

—			1st November 1935 to 31st May 1936.	1st November 1934 to 31st May 1935.
Spinning Test Reports	..	..	74	57
Fibre Test Reports	..	..	16	11
Yarn Test Reports	..	..	7	4
Total	..	..	97	72

It will be seen that there is a very substantial increase—35 per cent.—in the total number of reports issued during the period under review over the corresponding period of last year. This increase is shared by all types of reports, the increase in the spinning test reports alone being 30 per cent. It may be noted that the issue of nearly 100 reports in the first 7 months of the year represents a high water-mark in the work of the Laboratory, especially when we remember that during the first 5 years of its existence the total number of reports issued in 12 months did not exceed 40 per year.

These reports dealt mostly with the agricultural and trade samples supplied to the Laboratory for tests. Among these, the following samples are worthy of special mention :—

(a) *Agricultural Samples.*

(1) *Uganda cottons.*—In accordance with the decision of the Committee, tests were made on 8 samples of cotton supplied by the Department of Agriculture, Uganda. It will be remembered that at the last meeting of the Technological Research Sub-Committee when the results of tests on these cottons were considered, it was recommended that the Department should be asked to send a sample of a variety called N. 17, which formed the control in the Busoga and Lango districts of the Eastern Zone. Accordingly, the wishes of the Technological Research Sub-Committee were conveyed to the Department and this year a sample of N. 17 was also received and tested.

(2) *Hyderabad Gaorani 4 and Gaorani 6 cottons.*—It has been mentioned in some of my previous Progress Reports that experiments were in progress in the Hyderabad State with a view to selecting such strains of Gaorani cotton as should be suitable for propagation and cultivation in the State. These experiments have now reached a final stage after 4 years' selection work which involved numerous tests at the Laboratory and which has resulted in the choice of 2 strains which were distributed for district trials at 6 different centres in the current season.

The results obtained for the samples of the two improved varieties grown at 6 different centres are extremely interesting as they reveal important differences in the effect of climate and soil on these varieties and show which centres are best suited to a particular variety.

(3) *Hiriyur cottons grown on dry and wet lands.*—During the period under review samples of three strains, M.A. 1, M.A. 2 and Local Doddahatti, were received from Hiriyur, Mysore State. Each of these 3 cottons was grown under rainfed and irrigated conditions. The results of the tests showed that in all cases the samples grown under rainfed (dry lands) condition gave a much better spinning performance than the corresponding samples grown under irrigated (wet lands) condition. These results are rather unexpected as they show that so far as the cultivation of these cottons in the area under consideration is concerned, the application of irrigation in addition to rainfall, instead of improving the quality of cotton, may have adverse effect, this being more pronounced in the case of the two improved varieties M.A. 1 and M.A. 2 than in that of Local Doddahatti cotton.

(4) *289F cotton grown in Dacca.*—Eastern Bengal formed at one time the home of Indian textile industry. It is highly probable that the fabrics of superior qualities of Dacca muslin were in part made from cotton grown in the neighbouring districts. At present, however, very little cotton of good quality is grown in these areas and the Government of Eastern Bengal recently tried an experiment in the cultivation of 289F cotton from the seed imported from Punjab. The results of the tests on the sample showed that as regards fibre properties and spinning performance this sample compared very favourably with the 289F grown in Punjab. In view of the fact that recently there has been a certain amount of expansion in the textile industry in Bengal these results are of considerable importance and it would be interesting to see if 289F grown in the following seasons in Eastern Bengal maintains this year's level in fibre-properties and spinning performance.

(5) *Deshi crosses from Lyallpur.*—During the period under review 4 samples of *Deshi* crosses, namely, D.C. 1, D.C. 6, D.C. 7 and D.C. 13, were received from the Cotton Research Botanist, Lyallpur. These were tested and it was found that the performance of these crosses, especially of D.C. 13, was very much superior to that of Mollisoni selections which have hitherto been tested at this Laboratory. Upon receipt of the test report on D.C. 13 cotton, the Cotton Research Botanist expressed a desire that he would like this particular cotton to be tested in bulk

in one of the local mills. Accordingly, arrangements were made through the courtesy of one of the local mills to test this cotton and also to prepare a sample of cloth. A sample of this cloth was supplied to the Cotton Research Botanist, Lyallpur, and it is gratifying to note that the mill expressed their complete satisfaction with the performance of D.C. 13, which has since been named "Jubilee" cotton.

(6) *Effect of frost on Wagad 8.*—Two samples of Wagad 8 and Segregate 4.1, which were affected by frost, were received from Viramgam and tested during the period under review. On comparison with the samples of the same cotton which were unaffected by frost, it was found that the frost did not have any effect on the mean fibre-length, but that it did reduce the fibre-weight by a small amount and the percentage of mature hairs by a still greater amount. Furthermore, the spinning performance of both cottons was found to be affected adversely by frost and was definitely inferior to that of the samples unaffected by frost.

(7) *Effect of differential irrigation.*—This investigation has been in progress for some time past and at the last meeting of the Technological Research Sub-Committee it was decided that when the results are available, they should be sent up for publication in a suitable *Journal*. This will be done as soon as the contributions from the Cotton Breeders, who supplied the samples, are received.

(8) *Tests on long staple Sind-Egyptian and Egyptian cottons.*—While considering the results of some tests carried out on Sind-Egyptian cottons, at its last meeting, the Technological Research Sub-Committee recommended that further tests should be made on a larger number of samples which should not only be obtained from the Department of Agriculture, Sind, but also from the mills using these long staple types. It was also decided that tests should also be made on such Egyptian cotton as Giza 7 for purposes of comparison. Accordingly, during the period under review tests have been made on 9 samples of long staple cottons. Of these 5 were grown in Sind, while 4 were Egyptian. Of the former, 2 were supplied by the Department of Agriculture, Sind, and 3 by the mills and firms using long staple types. The Egyptian cottons tested included 3 samples of Giza 7 and 1 of Maarad.

(b) *Samples from Private Mills.*

As in the past, the Laboratory has continued to undertake tests, whenever possible, on samples of cotton and yarn submitted by various mills and firms. During the period under review, 7 samples were received for spinning tests, 31 samples for yarn tests, 17 samples for fibre tests, 10 samples for moisture tests and 3 samples for Shirley Analyser tests.

(c) *Technological Samples.*

In addition to the testing of the agricultural and trade samples as mentioned above, the Laboratory has continued its work on technological problems. The progress made under this head during the period under review will now be described :—

(1) *Storage of cotton in the thole yard and inside the shed at Karachi.*—The results yielded by this investigation were considered by the Technological Research Sub-Committee at its meeting held on the 11th January 1936 and it was decided that an account of this investigation containing a non-technical summary of the results should be published in the form of Technological Bulletin. This has been done.

(2) *Effect of different degrees of compression on the fibre-properties and spinning quality of cotton.*—The Technological Research Sub-Committee at its meeting held on 3rd February 1935 considered the results of some tests performed on Superfine Oomra cotton with a view to finding out whether pressing the cotton to different densities in the bale has any effect on its fibre-properties and spinning quality. It felt that if any effects are produced, they would be more noticeable with comparatively long than with short staple Indian cottons. Accordingly, it recommended that similar tests should also be made on such Indian cottons as Punjab-American 289F, Surat 1027 A.L.F., Jayawant and Cambodia Co. 2. In view of this decision, arrangements were made for obtaining three bales of each of these cottons, which were pressed to the same size but weighed respectively 400 lbs., 300 lbs. and 200 lbs. Furthermore, small samples of the lint which was pressed into these bales were also obtained for making preliminary tests in order to make sure that the cotton in the bales was representative of the type. The loose samples of lint was tested at the Laboratory soon after it was received, while

the bales were stored for a period of about 6 months, at the end of which duplicate samples from each bale were drawn and subjected to fibre and spinning tests which also included the examination of the fibre surface for any possible damage.

(3) *Spinning tests on mixings of Indian cottons.*—This investigation forms a part of the programme recently approved by the Indian Central Cotton Committee. For this purpose fibre and spinning tests are being made on the following varieties of Indian cottons :—

Surat 1027 A.L.F.	Jayawant.
Superfine Oomra.	Khamgaon.
P.A. 4F.	Wagad 8.
Cambodia Co. 2.	Kampala.
Broach Palej.	Punjab-Deshi.
P.A. 289F.	

Of these, Jayawant, P.A. 289F and Surat 1027 A.L.F. were chosen, one at a time, to be the "base" and the appropriate ones from among the other cottons were mixed with each of them in varying proportions and spun into suitable counts. The yarns obtained from the mixtures are examined for strength, neppiness, evenness, etc., while very detailed fibre tests were made on each of the cottons including the determination of such fibre properties as ribbon-width, convolutions, wax content, clinging power, etc. It may be mentioned here that in the course of this investigation a new apparatus was designed and made at the Laboratory for the determination of the clinging power of cotton, which permits these observations to be made not only under different pressures but at different angles of inclination. This investigation is in progress.

(4) *Effect of storage of seed-cotton prior to ginning.*—The Technological Research Sub-Committee, while considering the results contained in the summary of a previous *bulletin* issued on this subject, felt that similar tests should be made on some of the Punjab and Gujarat cottons with the period of storage increased from one month to about 3 months. Accordingly, arrangements were made for obtaining two samples each of P.A. 289F, P.A. 4F, Mollisoni and Wagad 8 cottons. In each case one sample was ginned soon after picking, allowing only sufficient time for the cotton to dry, while the other sample was ginned after storage of *kapas* for about 3 months. Both samples, of course, were ginned from the same *kapas* heap, which was mixed well and divided into two halves for this purpose. These tests are in progress.

(5) *Effect of different roller settings and twists on the spinning quality of cotton.*—The object of these tests was to find out the best scheme of roller settings and twists in the fly frame and roller settings in the ring frame which would give the optimum results for a long staple, a medium staple and a short staple Indian cotton. The three cottons selected for this purpose were Surat 1027 A.L.F., P.A. 4F and K. 22 and each cotton was processed with the normal settings and twists adopted at the Laboratory as well as with higher and lower settings and twists. The results of this investigation have been published in the *Technological Bulletin*, Series A, No. 32.

(6) *Quality of lint in relation to ginning factors.*—It has been mentioned in my previous Progress Report that for the purpose of this investigation, seed-cotton of 9 standard Indian cottons was obtained. Each sample of seed-cotton was divided into 4 parts, two were ginned on a single roller gin with two different settings of the moving knife, while the other two were ginned on a saw gin with two different saw speeds. The samples of lint obtained in each case were spun into suitable counts and the yarns were examined for the various yarn characteristics. The results of this investigation have now been published in the *Technological Bulletin*, Series A, No. 31.

(7) *Tests on mixtures of Indian cotton and staple fibre.*—In view of the increasing use of staple fibres by the Indian mills, the President, Indian Central Cotton Committee, suggested to the writer in an informal discussion that the Laboratory should undertake some tests on mixings prepared from Indian cottons with different types of staple fibre. Accordingly, three samples of staple fibre, namely, Sniafaeco, Courtaulds and Japanese, were obtained, and mixtures were prepared from them with Jayawant and Cambodia in proportions of 2 to 1 and 1 to 2. These mixtures

as well as pure cottons and staple fibres, have been spun into yarns of suitable counts which are being examined for their various characteristics. This investigation is in progress.

(8) *High draft tests on mixings of Indian cottons.*—The Laboratory has already undertaken and completed two series of investigations on the effect of different systems of high draft spinning on Indian cottons. Since the completion of the last investigation on the subject, three new systems of high draft spinning were introduced and it was therefore felt that further tests should be made along these lines. For this purpose mixtures in different proportions of Superfine Oomra, P.A. 4F and Cambodia Co. 2 have been spun on the ordinary three roller system as well as on different systems of high draft spinning. During the period under review the tests on the yarns have been completed.

(9) *The effect of different kier boil treatments on the appearance and quality of yarn spun from cotton.*—This investigation forms a part of the programme recently approved by the Indian Central Cotton Committee and has been undertaken jointly by the Technological Laboratory and the Department of Chemical Technology, Bombay University. The two cottons selected for this purpose are Surat 1027 A.L.F. and P.A. 289F and these were spun into 24's counts at the Technological Laboratory which also made the necessary tests on the fibre properties of these cottons. Yarns were supplied to the Department of Technology, Bombay University, which carried out the kier boil tests with different solutions and different concentrations. The yarns thus treated are now being examined at the Technological Laboratory for their various yarn characteristics as well as for any damage done to the fibres in the yarn. The Department of Technology, in addition to kier boil treatment, will carry out the necessary tests on the degree of whiteness of the various yarns.

(10) *The effect of different roller weights and roller settings on the spinning performance of a cotton.*—During the period under review 16 samples of yarn were received from one of the local mills. These yarns were spun from the same cotton but with four different types of rollers having weights varying from 5 to 2 ozs. with two different roller settings and with the ordinary and a special heavy back roller. It was felt that the results of tests on yarns produced by the mill under such different spinning conditions would be of very great interest to the mill industry and the mill was therefore asked whether they would have any objection to the results of these tests being published for general information. The mill very kindly agreed to the publication of these results and accordingly the necessary tests on these yarns have been carried out at the Laboratory and a report containing the results and the conclusions drawn from them will be published in due course.

II. RESEARCH LABORATORY.

Fibre Testing Section.

This section has been fully occupied in carrying out tests for the fibre properties on samples which were received at the Laboratory either for spinning tests or only for fibre tests. During the period under review the number of samples on which fibre tests of various descriptions were carried out amounted to 317.

Mr. N. Hari Rao, in addition to supervising the work of this section, continued his investigation on the effect of twist on strength and length of cotton fibre. This investigation was brought to completion during the period under review and a paper describing the results and chief conclusions drawn from them has been written up which will be shortly sent up for publication.

Physics Section.

Mr. R. S. Koshal continued his analysis on the effect of distribution of rainfall and temperature on the fibre-properties and spinning quality of cotton. During the period under review an analysis of the following cottons was completed :—

Madras	..	..	..	..	} Nandyal 14. Karunganni C. 7. Hagari 25.
U. P.	..	..	..	..	
C. P.	..	..	..	..	
					} Verum 262 (Nagpur). Verum 262 (Akola).

He is at present engaged in analysing the results obtained for the Bombay cottons, Surat 1027 A.L.F., Wagad 8 and Jayawant, after which the only other cottons left over are the Punjab cottons, P.A. 289F, P.A. 4F and Mollisoni. In view of the importance of this subject to the cotton growers and the highly interesting results obtained by Mr. Koshal, this subject will be put on the agenda of the first Conference of Scientific Research Workers on Cotton, which it is proposed to hold after the next cold weather meeting of the Committee.

Mr. C. Nanjundayya was engaged during a part of the period under review in writing up an account of the Stapling Apparatus which was designed at the Laboratory some time ago. This account has now been completed and has been sent up for publication to the *Journal of the Textile Institute*, Manchester. During the rest of the period under review Mr. Nanjundayya continued his investigation on the relationship between the fibre-properties and the breaking strength and the elastic properties of yarn. This investigation, it will be remembered, forms a part of the programme recently approved by the Committee and is in progress.

Dr. K. R. Sen continued with his investigation on the fibre-properties in relation to the mixing quality of cotton, which is another investigation that was recently approved by the Committee. A reference to the work so far done in connection with this investigation has been made under the head "Technological Samples."

Microscopy Section.

Mr. A. N. Gulati continued with his investigation on the effect of heredity, environment, irrigation, rainfall, etc., on the maturity of cotton fibre. On going through the Annual Report of the Institute of Plant Industry, Indore, the writer found that the Institute grew a large number of samples which could form suitable material for this investigation. The Director of the Institute very kindly agreed to supply small samples of these strains. However, the work on this investigation had to be temporarily suspended owing to the serious illness of Mr. Gulati, which necessitated his absence from the Laboratory for 2½ months.

The method so far employed at the Technological Laboratory for the determination of fibre-maturity, though capable of yielding accurate results, absorbed a fair amount of time. During the period under review an attempt was made to improve this method so that a larger number of tests could be made in a much shorter time. For this purpose, a new type of slide for holding and examining the fibres under the microscope was designed which achieved the end in view in a very satisfactory manner. A note describing this new slide was sent up for publication to the *Journal of the Textile Institute*, Manchester, and appeared in the April 1936 issue of the *Journal*. These slides, manufactured at the Laboratory Workshop, have been supplied to several of the Technological Assistants.

Chemistry Section.

Mr. D. L. Sen remained on study leave during the period under review. Mr. Sen is at present working under Prof. Scholefield at the Manchester College of Technology and is due to return on the 20th September 1936.

Dr. Laxji Thoria continued his work on the cellulose content of different varieties of Indian cottons. It will be recalled that at the last meeting of the Technological Research Sub-Committee it was decided that these tests should be made on high yielding short staple varieties of Indian cottons. The Directors of Agriculture of the various Provinces and the Indian States were circularised with a request that they may kindly send samples of such high yielding short staple varieties grown in the areas under their jurisdiction. In response to this request, 40 samples were received out of which tests have been made on 25 samples. In addition to the determination of cellulose content of these samples, Dr. Thoria has also made tests with a view to finding out if modifications in the treatment given to cotton would result either in a substantial improvement in the quality of the films made from it or an appreciable reduction in the cost of this treatment.

Mr. G. Rama Rau was appointed a Research Scholar on the 20th January 1936 and after the customary training in the determination of physical and chemical properties of cotton fibre was put on an investigation of the absorption of dyes by cotton at the point Mr. D. L. Sen left before proceeding on study leave to England. Mr. D. L. Sen in his work had used a method of adding the dye solution to the cotton until the saturation point was reached. This method of estimating the absorption of dyes is somewhat slow and not capable of attaining a very high

degree of accuracy. In order to remove these two drawbacks a new calorimeter has been designed at the Laboratory. During the greater part of the period covered by this report, Mr. Rama Rau was engaged in erecting and calibrating this new apparatus. The apparatus is now in working order and the tests on the absorption of dyes are being pushed forward.

Mr. Rama Rau also assisted me in completing an apparatus for recording the direction and duration of wind. A request for an apparatus of this type was made by the Cotton Research Botanist, Lyallpur, who required it in his work on the study of the effect of wind on cotton crop. This apparatus was designed and completed during the period under review and supplied to the Cotton Research Botanist, Lyallpur.

Mr. M. U. Parmar, who is the other Research Scholar, joined the Laboratory on the 16th January 1936. After being given the customary training in the methods of fibre and yarn tests, he was entrusted with an investigation on the effect of kier boil treatments on the yarn properties and fibre structure to which a reference has already been made. Mr. Parmar has been occupied during the period under review, in making the necessary yarn tests and studying the fibres composing the yarn for any damage as a result of different kier boil treatments. He has also carried out the necessary tests in connection with the effect of spinning the same cotton with different middle and back rollers which were supplied by a mill and to which a reference has been made under the head "Technological Samples."

III. MOISTURE TESTING SECTION.

In the absence of Mr. D. L. Sen on study leave, Mr. P. S. Sambamurthi carried out the work of this Section. During the period under review 20 samples were tested for moisture composed as follows :—

Appeal Committee	...	..	..	..	..	1
Trade	..	..	..	..	..	11
Laboratory	..	..	..	..	..	8

the total number of samples tested in this section up to date is 770.

IV. PUBLICATIONS.

The Brochure entitled "Cotton Research in India," to which a reference was made in my last Progress Report, was published during the period under review. I am glad to be able to say that this Brochure was very well received by the press, the organisations connected with cotton and the research workers.

In addition to this Brochure, the following technological bulletins, leaflets and circulars were issued during the period under review :—

Bulletins.

- (1) Technological Bulletin, Series A, No. 30, entitled "The effects of storing cotton bales in the open and inside a shed at Karachi."
- (2) Technological Bulletin, Series A, No. 31, entitled "Quality of lint in relation to ginning factors," Part I, "The effect of (i) moving knife setting, and (ii) saw speed."
- (3) Technological Bulletin, Series A, No. 32, entitled "The effect of employing different roller settings and twists on the spinning performance of three Indian cottons."

Leaflet.

- (1) Technological Leaflet No. 5 entitled "The influence of method of picking on the quality of Cambodia Cotton."

An article entitled "A device for mounting cotton hairs for examination of fibre maturity."

Circulars.

(1) Technological Circulars Nos. 208 to 240 inclusive, detailed as under :—

T. C. No.	Description.	Date.
208	Technological Report on Punjab-American 289F, 1935-36	December 1935
209	Spinning Test Report (No. 665) on samples of Ujjain cotton, 1935-36	January 1936.
210	Spinning Test Report (No. 666) on samples of Bengals cotton, 1935-36	January 1936
211	Spinning Test Report (No. 667) on samples of Khandesh cotton, 1935-36	January 1936.
212	Spinning Test Report (No. 670) on samples of Moglai cotton, 1935-36	January 1936.
213	Spinning Test Report (No. 680) on samples of Ujjain (Mandsaur) cotton, 1935-36	February 1936.
214	Technological Report on Verum 262 (Nagpur), 1935-36	February 1936.
215	Technological Report on Verum 262 (Akola), 1935-36	February 1936.
216	Technological Report on V. 434 (Akola), 1935-36	February 1936.
217	Technological Report on Late Verum (Nagpur), 1935-36	February 1936.
218	Technological Report on Umri Bani, 1935-36	February 1936.
219	Technological Report on Punjab-American 4F, 1935-36	February 1936.
220	Spinning Test Report (No. 693) on samples of Nanded cotton, 1935-36	March 1936.
221	Spinning Test Report (No. 695) on samples of C.P. No. 1 cotton, 1935-36	March 1936.
222	Spinning Test Report (No. 696) on samples of Latur cotton, 1935-36	March 1936.
223	Spinning Test Report (No. 697) on samples of Punjab-American cotton, 1935-36	March 1936.
224	Spinning Test Report (No. 700) on samples of Muttia cotton, 1935-36	March 1936.
225	Technological Report on Cambodia Co. 2 (Cambodia 440), 1935-36	April 1936.
226	Spinning Test Report (No. 703) on a sample of Navsari cotton, 1935-36	April 1936.
227	Spinning Test Report (No. 704) on samples of Surat cotton, 1935-36	April 1936.
228	Spinning Test Report (No. 705) on samples of Bailhongal cotton, 1935-36	April 1936.
229	Spinning Test Report (No. 706) on samples of Tiruppur Cambodia cotton, 1935-36	April 1936.
230	Spinning Test Report (No. 707) on samples of Broach cotton, 1935-36	April 1936.
231	Technological Report on Sind Sudhar (289F-1), 1935-36	April 1936.
232	Spinning Test Report (No. 708) on samples of Farm Westerns cotton, 1935-36	April 1936.
233	Spinning Test Report (No. 709) on samples of Westerns cotton, 1935-36	April 1936.
234	Spinning Test Report (No. 710) on samples of Hubli Kumpta cotton, 1935-36	May 1936.
235	Spinning Test Report (No. 711) on samples of Hubli Upland cotton, 1935-36	May 1936.
236	Spinning Test Report (No. 712) on samples of Navsari cotton, 1935-36	May 1936.
237	Spinning Test Report (No. 713) on samples of Surat cotton, 1935-36	May 1936.
238	Spinning Test Report (No. 714) on samples of Jagadia cotton, 1935-36	May 1936.

Circulars.—contd.

T. C. No.	Description.	Date.
239	Spinning Test Report (No. 715) on samples of Kadi cotton, 1935-36	May 1936.
240	Technological Report on Surat 1027 A.L.F., 1935-36	May 1936.

V. GENERAL.

Visit of His Excellency the Governor of Bombay.—I have great pleasure in informing the Committee that His Excellency the Governor of Bombay very kindly paid a visit to the Technological Laboratory on the 6th April 1936. His Excellency was received at the Laboratory by Sir Purshotamdas Thakurdas, Vice-President, Mr. Rama Reddi and the writer. His Excellency evinced keen interest in the work of the Committee, which was clear from the numerous questions he asked and spent nearly an hour and a half in going round the Laboratory, at the end of which he was pleased to signify his appreciation of the work seen by him.

Equipment.—During the period under review the equipment of the Laboratory has been strengthened by the addition of the following machines :—

- (1) One Shirley Analyser.
- (2) One Fractional H.P. B.T.H. motor.

Staff.—In order to cope with the increase in the work of the fibre and the yarn testing sections, 4 posts of temporary Junior Testers, for which provision was made in last year's budget, were filled up for three months by the appointment of Messrs. B. N. Prabhakar, S. M. Nawaz, J. S. Deshpande and G. Hurry. These temporary Junior Testers worked in the Laboratory from 2nd December 1935 to 1st March 1936.

Mr. Hari Rao, Senior Research Assistant, proceeded on leave from 4th April 1936 to 23rd May 1936 and Mr. R. S. Koshal supervised the work of this Section.

Mr. V. Venkataraman, Statistician and Personal Assistant, proceeded on leave on medical certificate from 9th March 1936 to 12th June 1936. During his absence his post remained vacant.

Mr. A. N. Gulati, Microscopist, was on leave on medical certificate from 15th April 1936 to 1st July 1936.

As mentioned above, during the period under review Messrs. G. Rama Rau and M. U. Parmar were added to the Laboratory staff and they joined their duties on 20th and 16th January 1936 respectively.

Messrs. W. D. Saleem and S. N. Rao were appointed Junior Testers on 9th December 1935 and 2nd January 1936 respectively to fill the two vacancies caused by the resignations of Messrs. M. R. Raut and A. B. Khan.

Mr. B. N. Prabhakar was appointed on the 14th April 1936 as Junior Tester to fill up the post rendered vacant due to the resignation of Mr. W. D. Saleem.

As in the past, two students from outside—Messrs. B. H. Vora and S. Dinakaran—were selected for training at the Laboratory. These two students joined the Laboratory on 1st December 1935 and their period of training expired on 31st May 1936.

ACKNOWLEDGMENTS.

I have great pleasure in acknowledging the co-operation and the valuable assistance rendered to me by my staff, both technical and clerical, without which it would not have been possible for me to accomplish the work described in this report.

(Sd.) N. AHMAD,
Director,
Technological Laboratory.

Dated the 11th July 1936.

APPENDIX IX.

SUBJECT 23.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 10-30 a.m. on Friday, the 14th August 1936.

Mr. M. S. Durutti was appointed a member of the Sub-Committee in place of Mr. A. A. Sarantides, resigned.

The Progress Report of the Director for the period 1st November 1935 to 31st May 1936 was considered. The total number of samples received for test during the period was 439 against 434 for the corresponding period last year. 284 samples divided into 320 lots were spun into 1,090 counts during the period covered by the report, the corresponding figures for the previous year being 200 samples, 233 lots and 905 counts. 74 spinning test reports, 16 fibre test reports and 7 yarn test reports were issued during this period against 57, 11 and 4 respectively for the corresponding period last year.

The tests begun at the Technological Laboratory in 1930 on Gaorani cotton with the object of selecting a suitable strain for distribution in the Hyderabad State have now reached the final stage. Beginning with 35 samples in 1930-31 unsuitable selections were progressively discontinued till in 1934-35 only 3 selections were left. Of these 2, viz., Gaorani 4 and Gaorani 6, which gave the best results, were distributed for district trials at 6 different centres and the 12 samples were tested this year at the Laboratory.

Comparative tests between frost affected and unaffected samples of Wagad 8 and Segregate 4-1, showed that there was no difference between the affected and unaffected samples in regard to mean fibre length; frost, however, reduced the fibre weight by a small amount and the percentage of mature hairs by a greater amount, whilst it had a very definite adverse effect on the spinning performance of the cotton.

The investigation on the effect of different degrees of compression on the fibre-properties and the spinning quality of cotton has now been completed. The report describing the results of this investigation was considered by the Sub-Committee and it was decided that the results obtained should be published in pamphlet form with the object of inviting the opinion of the trade. The results of tests on long staple cottons grown in Sind were considered and in view of the liability of variation it was decided that these tests should be repeated for one more year.

Certain *deshi* crosses, D.C. 1, D.C. 6, D.C. 7 and D.C. 13, received from the Cotton Research Botanist, Lyallpur, more particularly the last, gave very much superior performance than the Mellisoni selections previously tested at the Laboratory. A sample of cloth was also prepared from D.C. 13 in a local mill and it is reported to have given complete satisfaction.

Amongst the investigations still in progress are the effect of storage of seed cotton prior to ginning, spinning tests on mixings of Indian cotton and tests on mixtures of Indian cotton and staple fibre.

A new apparatus was designed and made at the Laboratory for the determination of the clinging power of cotton.

In order to bring about closer contact between the Laboratory and the industry, the Sub-Committee considered the advisability of appointing, funds permitting, a liaison officer. Further consideration of this point was postponed pending the receipt of a report from the millowners' representative after consulting his association.

The Sub-Committee approves of the Progress Report of the Director and records its appreciation of the good work done.

The Special Sub-Committee appointed by the Committee at its last meeting to examine the Budget for 1936-37 and to report on possible economies met at the Technological Laboratory on the 8th August 1936 and its findings are contained in the attached report. The findings of the Special Sub-Committee were considered

by the Sub-Committee and these were approved subject to the following modifications:—

- (1) that in so far as the recommendation in regard to the appointment of the Spinning Master was concerned, this was accepted provided it did not prejudice the consideration of the question of the renewal of the agreement of the present Spinning Master, and
- (2) that the Director, Technological Laboratory should be permitted to purchase scientific apparatus without previous reference to the Finance Sub-Committee as suggested by the Special Sub-Committee.

The Reports of the Technological Assistants were approved subject to the recommendations of the Director, Technological Laboratory.

The Sub-Committee considered a request from the Director, Industrial Intelligence and Research Bureau, Indian Stores Department, for the loan of the services of Dr. L. Thoria, temporary Chemist at the Technological Laboratory, in connection with the investigation undertaken by the Director of the Bureau at the suggestion of the Committee for the purpose of finding out the relative costs and the suitability of the various processes of the manufacture of artificial silk in India. The Sub-Committee recommends that Dr. Thoria's services be placed at the disposal of the Director, Industrial Intelligence and Research Bureau, on the completion of his work at the Technological Laboratory.

The purchase and installation of a standard size roller gin at the Technological Laboratory was approved. It was also suggested that the Director should make the required arrangements for this work to be adequately attended to and, if necessary, put up proposals for the purpose.

The request of the Director for leave from the 22nd August to the 12th September 1936 was granted. The proposal that Mr. R. P. Richardson, Spinning Master should be allowed to officiate as Director during the absence of the latter was also accepted.

It was decided to postpone consideration of the question of purchasing a new model Nasmith Combing Machine till further information was obtained from mills using this type of machine as regards its usefulness.

A proposal to instal a precleaning machine at one of the ginning and pressing factories was considered. It was decided not to proceed with this proposal, owing to the existence of certain trade prejudices against precleaned cotton and the possibility that this method was less economical than cleaning in the mills.

The question of renewing the agreement of the Spinning Master on its expiration on the 7th April 1937 was considered and it was decided not to renew it.

A letter from the Director of Agriculture, Uganda Protectorate, stating that reports had been received from Indian spinners in regard to the falling off in staple length of Uganda cottons and requesting to be furnished with certain information regarding the counts spun in Indian mills and the qualities which Indian spinners most desired in Uganda cottons, was considered. The Sub-Committee decided that the Secretary should supply the Director of Agriculture with such information as it was possible to give from the Technological Bulletins and Reports and ask him to obtain from the Millowners' Associations direct the further information desired.

Technological Research Sub-Committee.

31st Meeting—14th August 1936.

*SUBJECT 4.—Technological Laboratory—Budget for 1936-37—
Reference from last meeting.*

Secretary's Note.

The Sub-Committee at its meeting in January last in considering the attached note* provisionally sanctioned the budget for 1936-37 and recommended the appointment of a small Sub-Committee to examine it and report on possible economies. The composition of the Sub-Committee as proposed was as follows:—

- (1) Sir Purshotamdas Thakurdas,
- (2) Mr. S. D. Saklatvala,

- (3) Mr. Kasturbhai Lalbhai,
- (4) Seth Sakarlal Balabhai,
- (5) Dr. W. Burns, and
- (6) Dr. Nazir Ahmad.

The recommendation of the Sub-Committee was accepted by the full Committee at its meeting in January last. The Sub-Committee thus constituted met at the Technological Laboratory on the 8th August with the exception of Dr. W. Burns who was unable to be present. The findings of the Sub-Committee are contained in the attached report which is for consideration together with the Technological Laboratory Budget* for 1936-37.

REPORT OF THE SUB-COMMITTEE APPOINTED TO EXAMINE THE BUDGET FOR 1936-37 AND EFFECT ECONOMIES.

8th August 1936.

We have examined in detail the various items of expenditure of the Laboratory for which the Director put up detailed statements and gave us all explanations we needed. We report as under :—

1. *Superintendence.*—We have no remarks to offer under this except that under the head of printing and publications we would recommend that competitive tenders may be called for with a view to making some saving under this head.

2. *Spinning Laboratory.*—The agreement of the Spinning Master expires next March and we understand that the question is before the Committee. We are of the opinion that a Spinning Master of the required qualifications can be secured round about Rs. 400 to Rs. 500 per month and we suggest that this saving should be made at the end of the present incumbent's agreement.

3. *Research Laboratory.*—We have suggested to the Director that the working hours of the Spinning Department should be increased by one hour, i.e., 9 hours a day, from 8.0 a.m. to 5.0 p.m. with one hour's recess. Similarly we have suggested to him that the working hours of the Laboratory staff should be increased from 9.0 a.m. to 5.0 p.m. with one hour's recess, i.e., 7 hours' work. The Director works longer hours than these himself and has agreed to this and we suggest that these hours be in vogue from the 15th instant.

4. *Lump grant for apparatus in the budget.*—This grant varies round about Rs. 4,000 to Rs. 5,000 a year and we suggest that whilst recommending this grant in the budget the Standing Finance Sub-Committee should call for the details of the Director's requirements under this grant and benefit by the opinion of expert mill agents on the Committee to ensure that necessary apparatus only is ordered out. We fully realise the Director's anxiety to make our Laboratory an up-to-date Laboratory and we have no doubt that he uses his best efforts in that direction but we feel that by consulting men with practical experience of spinning and weaving on the Committee he would benefit in his selection. We, of course, realise that for smaller sums the Director must have full discretion.

5. We would like to make one general remark. Some of the present incumbents' pay in each department appear to us as being on the high side as compared with the range of pays prevalent at present. We understand that most of such men have been in the Committee's service for periods varying to ten years. We do not wish to recommend that the existing incumbents' salaries should be reduced but we strongly suggest to the Committee that as they have done in the case of Junior Testers, the grades for new incumbents in each of the posts under the Committee should be revised. We expect substantial savings from this in years to come and we believe similar revisions have been made in other important Institutions in Bombay, which without affecting the existing incumbents ensures saving when new personnel is recruited to fill a post.

6. We particularly like to mention the question of Physicists in the Research Laboratory. We have had a discussion with the Director about reducing one Physicist and he has agreed to think over the question and communicate his

recommendation to the Vice-President, as early as possible. We, therefore, do not make a recommendation on this score at present.

In conclusion, we wish to record our appreciation of the whole-hearted manner in which the Director assisted us in the work entrusted to us.

(Sd.) PURSHOTAMDAS THAKURDAS,

(Sd.) S. D. SAKLATVALA,

(Sd.) SAKARLAL BALABHAI,

(Sd.) KASTURBHAI LALBHAI.

Dated the 8th August 1936.

APPENDIX X.

SUBJECT 24.—*Agricultural Research—General Progress Report.*

Secretary's Note.

The Indian Central Cotton Committee has provided funds for 32 Agricultural Research Schemes and 16 Seed Schemes in the Budget for 1936-37.

A. AGRICULTURAL RESEARCH SCHEMES.

Out of the 32 schemes, the following schemes are dealt with under separate subjects noted against them on the agenda and require no comment here :—

<i>Schemes.</i>	<i>Subject No.</i>
1. Broach Cotton Breeding Scheme	25
2. Jalgaon Cotton Breeding Scheme	26
3. Madras Herbaceum Scheme	27
4. Madras Nadam Cotton Breeding Scheme	28
5. Bikaner Gang Canal Scheme	29
6. Bengal Comilla Cotton Scheme	30
7. Punjab Botanical Scheme	31
8. Central Provinces Botanical Scheme	32
9. Hyderabad Botanical Scheme	33
10. Punjab Pink and Spotted Boll-worm Scheme	34
11. Punjab White Fly Scheme	35
12. Central Provinces and Berar Entomological Scheme	36
13. Hyderabad Pink and Spotted Boll-worm Scheme	38
14. Punjab Root-Rot Scheme	39
15. Baroda Root-Rot Scheme	40
16. Mysore (Doddahathi) Scheme	41
17. Madras Pempheres and Physiological Scheme	42
18. Madras Fodder Cholam Scheme	43
19. Sind Physiological Scheme	44
20. Scheme for Survey of Goghari Cotton in Gujerat	45
21. Scheme for Survey of Cotton in Rohilkhand and Bundelkhand, United Provinces	46
22. Hyderabad Cotton Survey Scheme	47
23. Scheme for Survey of Goghari Cotton in Baroda State	48
24. Plant Puller Propaganda Scheme in Surat and Broach Districts.	49
25. Plant Puller Propaganda Scheme in Baroda State	50
26. Scheme for Defibrillation of cotton seed in the Bombay Presidency.	51
27. Institute of Plant Industry, Indore	53
28. Burma Cotton Improvement Scheme	54

The position regarding the remaining four schemes is explained as under :—

29. *Punjab Physiological Scheme.*—The Revised Programme of work for 1936-37 was considered at the meeting of the Committee held in January last. The Progress Report for 1936-37 will be considered at the next meeting of the Committee.

30. *Punjab Spraying Trials Scheme.*—The extension of this scheme for a period of one year was sanctioned by the Committee at its meeting held in February 1935,

the actual work to begin only in a year of really bad white fly attack. The Director of Agriculture, Punjab, has reported that the scheme was not put into operation during 1935-36.

31. *Scheme for collection of Herbaceum cottons in Iran.*—This scheme under which it is proposed to send a member of the staff of the Institute of Plant Industry, Indore, to Iran to collect samples of *kapas*, was sanctioned at the last meeting of the Committee, at an estimated cost of Rs. 4,000, the whole of this money being spent on travelling allowance and contingencies only as the Indore Institute will meet the salary of the Assistant who tours. The report of the tour will be placed before the Committee as soon as received.

32 *Scheme for Improvement of Dholleras cottons.*—As regards the survey of Kathiawar cottons, the following is the extract from the Report of the Agricultural Research Sub-Committee adopted by the full Committee at its last meeting :—

* * * *

“(2) *Survey of Kathiawar Cottons.*—A survey of Kathiawar cottons has been undertaken by the Institute. It is believed that both in the case of Mathio and Wagad cottons crossing with Iranian cottons offered an avenue of improvement.

(3) *Arrangements to be made for growing the material obtained from the above surveys.*—The Sub-Committee considers that the breeding work on the Kathiawar cottons must be carried out in Kathiawar and that possibly the Bombay and Baroda Departments of Agriculture could arrange facilities at Viramgaum and Amreli. Mr. Hutchinson might ascertain whether one or both these stations are required for the projected work.”

In accordance with the decisions of the Committee, the Standing Finance Sub-Committee at its meeting held on the 5th June 1936 considered proposals forwarded by the Director, Institute of Plant Industry, Indore, for a five-year scheme, but as the Sub-Committee could not decide about the location of the scheme, it decided to refer the proposals to this meeting of the Committee. (This is dealt with separately on the agenda). The Sub-Committee, however, sanctioned a sum of Rs. 900 for the purpose of growing at Viramgaum in the current season the material already collected.

B. SEED DISTRIBUTION SCHEMES.

Progress Reports on the following schemes are dealt with separately on the agenda under subjects noted against them :—

	<i>Schemes.</i>	<i>Subject No.</i>
1.	Hubli Scheme	55
2.	Gadag Scheme	56
3.	Athani Scheme	57
4.	Surat Scheme	58
5.	Khandesh (Banilla) Scheme	59
6.	Deccan Canals (Banilla) Scheme	60
7.	B.D. 8 Scheme	61
8.	Sind Scheme	62
9.	Madras Tiruppur and Co. 2 Schemes	63
10.	Scheme for extension of long staple cotton and marketing of Verum cotton in Central Provinces and Berar	64
11.	Hyderabad Scheme	65
12.	Baroda (Navsari Seed Storage) Scheme	66
13.	United Provinces C. 402 Scheme	67

The Haveri and Bailhongal Schemes which were sanctioned in November 1929 did not start at all. These together with the Hubli, Gadag and Athani Schemes have now been merged in the Revised Jayawant and Gadag I Scheme sanctioned from June 1936,

APPENDIX XI.

SUBJECT 73.—*Report of the Agricultural Research Sub-Committee.*

The Agricultural Research Sub-Committee met at 11 a.m. on Wednesday, the 12th August 1936, and divided itself into the following Sectional Sub-Committees for detailed examination and report on the subjects noted against each :—

SECTIONAL SUB-COMMITTEE I.

Personnel :—

P. B. Richards, Esq.,
 Prof. R. H. Dastur,
 T. R. Low, Esq.,
 Dr. V. K. Badami, and
 The Secretary.

Subjects :—

33. Progress Report on Hyderabad Botanical Scheme.
34. Progress Report on the Punjab Pink and Spotted Boll-worm Scheme.
35. Progress Report on the Punjab White Fly Scheme.
36. Progress Report on the Central Provinces and Berar Entomological Scheme.
38. Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme.
41. Progress Report on Mysore (Doddahathi) Cotton Scheme.
42. Progress Report on Madras Pempheris and Physiological Scheme.
43. Progress Report on Madras Fodder Chola Scheme.
53. Annual Report of the Institute of Plant Industry, Indore.
68. *Research Schemes—Proposed extensions of :—*

(e) Central Provinces and Berar Entomological Scheme.

(f) Hyderabad Pink and Spotted Boll-worm Scheme.

Research Students—Progress Reports :—

(a) Dr. K. B. Lal.

SECTIONAL SUB-COMMITTEE II.

Personnel :—

The Vice-President,
 W. J. Jenkins, Esq.,
 Chunilal B. Mehta, Esq.,
 J. C. McDougall, Esq.,
 Khan Bahadur Maulvi Fateh-ud-Din,
 Chellaram Shewaram, Esq.,
 Rao Bahadur S. S. Salimath,
 Rao Bahadur M. G. Deshpande, and
 K. V. Joshi, Esq.

Subjects :—

28. Progress Report on Madras Nadam Cotton Breeding Scheme.
51. Progress Report on the Scheme for Defibrillation of Cotton Seed in the Bombay Presidency.
52. Progress Report on the Scheme for Defibrating and Delinting Plant in the Punjab.
57. *Seed Distribution and Extension Schemes*—Final Progress Report on Athani Scheme.
58. *Seed Distribution and Extension Schemes*—Progress Report on Surat Scheme.
59. *Seed Distribution and Extension Schemes*—Progress Report on Khandesh (Banilla) Scheme.
60. *Seed Distribution and Extension Schemes*—Progress Report on Deccan Canals (Banilla) Scheme.

61. *Seed Distribution and Extension Schemes*—Progress Report on B.D. 8 Scheme.
62. *Seed Distribution and Extension Schemes*—Progress Report on Sind Scheme.
63. *Seed Distribution and Extension Schemes*—Progress Report on Madras Tiruppur and Co. 2 Schemes.
64. *Seed Distribution and Extension Schemes*—Progress Report on the scheme for extension of long staple cotton and marketing of Verum cotton.
65. *Seed Distribution and Extension Schemes*—Progress Report on Hyderabad Scheme.
66. *Seed Distribution and Extension Schemes*—Progress Report on Baroda (Navsari Seed Storage) Scheme.
67. *Seed Distribution and Extension Schemes*—Progress Report on the United Provinces C. 402 Scheme.
69. *Seed Distribution and Extension Schemes*—*Proposed extensions of :—*
 - (a) Hyderabad Scheme,
 - (b) Scheme for extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar.
 - (c) Madras Tiruppur Scheme.
71. *Proposed new Seed Distribution and Extension Schemes :—*
 - (a) Scheme for the distribution of pure Verum cotton in the Mehker Taluq, Central Provinces.

SECTIONAL SUB-COMMITTEE III.

Personnel :—

R. G. Allan, Esq.,
 J. B. Hutchinson, Esq.,
 Mohammad Afzal, Esq.,
 Nizam-ud-Din Hyder, Esq.,
 Mian Nurullah,
 B. S. Patel, Esq.,
 Dr. B. N. Uppal, and
 The Publicity Officer.

Subjects :—

25. Progress Report on Broach Cotton Breeding Scheme.
26. Progress Report on Jalgaon Cotton Breeding Scheme.
29. Progress Report on Bikaner Gang Canal Scheme.
30. Progress Report on Bengal Comilla Cotton Scheme.
31. Progress Report on the Punjab Botanical Scheme.
39. Progress Report on the Punjab Root-Rot Scheme.
40. Progress Report on Baroda Root-Rot Scheme.
49. Progress Report on the Plant Puller Propaganda Scheme in Surat and Broach Districts.
50. Progress Report on the Plant Puller Propaganda Scheme in Baroda State.
54. Progress Report on Burma Cotton Improvement Scheme.
68. *Research Schemes—Proposed extensions of .—*
 - (a) Broach Cotton Breeding Scheme.
 - (b) Jalgaon Cotton Breeding Scheme.
 - (c) Cotton Wilt Breeding Scheme at Poona.
 - (d) Plant Puller Propaganda Scheme in Surat and Broach districts.
 - (g) Baroda Root-Rot Scheme.
70. *Proposed new Research Schemes :—*
 - (a) Scheme for breeding wilt resistant cottons for Surat area.
 - (b) Scheme for the improvement of Dhelleras cottons.

Research Students—Progress Reports :—

- (b) Mr. G. B. Patel.
- (c) Mr. Nazir Ahmad.

SECTIONAL SUB-COMMITTEE IV.

Personnel :—

Dr. W. Burns,
 Sir C. V. Mehta,
 V. Ramanatha Ayyar, Esq.,
 Rao Sahib Kalidas Sawhney, and
 D. N. Mahta, Esq.

Subjects :—

27. Progress Report on Madras Herbaceum Scheme.
32. Progress Report on the Central Provinces Botanical Scheme.
44. Progress Report on Sind Physiological Scheme.
45. Progress Report on the Scheme for Survey of Goghari cotton in Gujerat.
46. Progress Report on the Scheme for Survey of cotton in Rohilkhand and Bundelkhand, United Provinces.
47. Final Report on Hyderabad Cotton Survey Scheme.
48. Progress Report on the Scheme for Survey of Goghari cotton in Baroda State.
55. *Seed Distribution and Extension Schemes*—Final Progress Report on Hubli Scheme.
56. *Seed Distribution and Extension Schemes*—Final Progress Report on Gadag Scheme.
70. *Proposed new Research Schemes :—*
 - (c) Scheme for the improvement of Kumpta cotton in Hyderabad State.

Report on the work of Technological Assistants :—

- (a) Lyalpur,
- (b) Coimbatore,
- (c) Dharwar,
- (d) Surat, and
- (e) Sind.

The reports submitted by the Sectional Sub-Committees were considered at the plenary sitting of the Sub-Committee on the 13th August.

I. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROGRESS REPORTS AND PROGRAMMES OF WORK.

The Sub-Committee considered and approved the following progress reports on schemes and the respective programmes of work for 1936-37 subject to the observations, if any, made against each.

Broach Cotton Breeding Scheme (No. 25).—The Sub-Committee desires to suggest the consideration of the reduction of the number of crosses which are being at present controlled and greater concentration on the most promising. It understands that this is intended whenever spinning tests have been carried out. It suggests that early steps should be taken to carry out yield trials of N.S. 12, B.D. 8, N.S. 49, B.D. 8 x G.A. 26 F. 5.

Jaigaon Cotton Breeding Scheme (No. 26).—The Sub-Committee notes that though cottons capable of giving an equal yield with better spinning qualities than the local have been evolved the question of wilt resistance still remains unsolved. It notes that it is intended to make crosses with Million Dollar and with B.D. 8. The latter is an inter-specific cross. As it is likely to lead to difficulty in other ways, the Committee were of opinion that the Million Dollar Cross should be the first endeavour of the breeder and that if B.D. 8 cross was made it should only be carried on if Million Dollar failed to give results. The Sub-Committee also notes that in a number of field trials, the local cotton is not included as a control. It feels that local should be a control in all trials.

Madras Herbaceum Scheme (No. 27).—The Sub-Committee notes that variety 4714 continues to be very satisfactory and that it has now reached a stage when it will be tested in the districts. The Sub-Committee is of opinion that the fact that 4714 has a narrow lobed leaf is not a serious drawback since the flower is yellow and hence the variety can be easily distinguished from *G. roseum* at the flowering stage.

The Sub-Committee recommends that work on the study of broad lobed mutants from this strain should be pushed on so that by the time the present scheme ends in 1938, there should be some definite indication as to which strains are worth retaining and which should be rejected. Since the scheme has less than two years to run it is suggested that the work of testing out all suitable varieties in replication should be done as quickly as possible.

The Sub-Committee also got elucidated the paragraph on back crosses on page 3 of the report. It appears that variety 1 has been back-crossed twice with Uppam, varieties 2, 3 and 4 have been back-crossed with Uppam and variety 5 has not been back-crossed at all. The 51 plants referred to are all the progeny of No. 5.

The Sub-Committee recommends that the progress report be adopted.

Madras Nadam Cotton Breeding Scheme (No. 28).—The Sub-Committee considers that the progress report submitted did not contain a sufficiently detailed account of the work done to enable a correct appreciation, of the work carried out, to be made. It was decided that the officers responsible for the scheme should be asked to submit a fuller report at the next meeting of the Agricultural Research Sub-Committee when a complete review of the work done under the scheme could be carried out. Attention was called to the introduction of agronomic and manurial experiments in what was initially a cotton breeding scheme. The Sub-Committee was assured that such work was carried out as a side line and without detriment to the actual botanical work for which the scheme was originally sanctioned.

Bikaner Gang Canal Scheme (No. 29).—The report to hand is the final report of the original scheme and not a progress report as stated. The Sub-Committee is however of the opinion that effective work had been done in the early scheme and that the programme of work outlined in the scheme put in force this year is fully satisfactory, though it does not consider that too much attention and time should be directed to the latter items recorded on page 20.

Bengal Comilla Cotton Scheme (No. 30).—The Sub-Committee considers that too much time is being devoted to matters of minor morphological character. Thus on page 2 under developments it is of the opinion that Nos. 2, 3, 4, 8, 9, 10, 12, 13 and 15 might be omitted. It notices references to the introduction of outside varieties. This, it feels, is not a part of the scheme and should be dropped. On page 2 it questions the need or desirability of the crosses referred to in paragraph 4 and in reference to the same paragraph it suggests that the insect referred to might with advantage be sent to the Imperial Entomologist for identification.

In regard to paragraph 5, the Sub-Committee questions the need of botanical study of weeds as there appears to be no reason given why this should be included. If it is a matter of suppressing of weed growth which the officer in charge finds difficult to control it suggests that the advice of the local Agriculturist might be taken.

The Sub-Committee recommends that a copy of the report and the criticisms of the Sub-Committee be sent to the President with the request that he might place before the Bengal Government the original object of the scheme and the desirability of adhering to it.

Punjab Botanical Scheme (No. 31).—The Sub-Committee considers the work which is being done as very satisfactory and has no comments to make.

Central Provinces Botanical Scheme (No. 32).—The Sub-Committee records with satisfaction the success of the new strain V. 434 which continues to give excellent results in every respect in all conditions of soil and climate and is also very wilt resistant.

The Sub-Committee considered the points raised in the third paragraph of the note of the Secretary, Indian Central Cotton Committee, regarding the work that has been put on the breeding of rotation crops. It is worth mentioning that the Central Provinces has placed its main—in fact its only—experimental farm in

Berar at the Indian Central Cotton Committee's disposal and on this farm observations on the two rotation crops have to be carried on. The original scheme sanctioned in 1923 was meant for two purposes (1) the isolation of good types of cotton for the Central Provinces and (2) an enquiry into the causes of low yield. This meant work on rotation crops and in the early years the work was entirely agronomic. Later on work was also taken up on selection of good types from these rotation crops and this work has continued. It is really an addition to the cotton work and does not mean that the cotton staff is being diverted in any way from its legitimate duties. Even if this work of breeding rotation crops were stopped the same staff would be needed for the cotton work and there would be no saving. The Sub-Committee does not see here any particular principle, but only the development of special work in special circumstances and does not think there is any danger of a precedent being created.

The Sub-Committee recommends the adoption of the progress report and would draw attention to the fact that this is a case where there has been continuous work over a long number of years with highly successful results and also the additional advantage of being able to handle what looks a very large programme without difficulty.

Hyderabad Botanical Scheme (No. 33).—The Sub-Committee considers the progress of work as shown by the report to be satisfactory. It desires to draw the attention of the Research Committee to the desirability of carrying out any selection or breeding programme for the Gaorani area within that area and not as at present at Parbhani. It advises that the Hyderabad Government be recommended to provide a farm and necessary buildings at Nanded to enable the work of improvement of Gaorani cotton to be carried out there. Meanwhile the proposal to test the present available types and new selections at the variety testing stations at Latur and Madhol are approved as a temporary measure. With the establishment of cotton farm and research station at Nanded the present leased cotton botanical farm at Parbhani would not be required and one of the variety testing stations could also be dispensed with. Apart from the desirability of conducting breeding or selection work on the area to be served, the Sub-Committee was moved to make this recommendation for the reason that strains which did best at Parbhani have not done uniformly well in the Gaorani tract due probably to the differences in soil and in rainfall between the two areas. The considerable difference in the rainfall in the Gaorani tract itself will make it necessary to maintain one of the varietal testing stations in addition to the proposed new research station. Attention was drawn to the failure of Gaorani 4 cotton grown under cultivator's conditions on 900 acres at Ardhapur. The Cotton Botanist explained that the apparent failure apart from the fact of heavy rains in October and the severe Spotted Boll-worm attack, was due to its being in competition with 'Roseum' which it is not intended to replace. The distribution of bulk seed for the present season has been arranged for areas where the improved types will be compared with Gaorani local.

Punjab Pink and Spotted Boll-worm Scheme (No. 34).—The Sub-Committee in 1935-36 drew attention to the necessity to confirm the conclusion that cotton stems were the only alternative hosts for the Spotted Boll-worm for about a month and a half. The present report greatly modifies the previous conclusion as six additional host plants were found to be operative during the off-season of which three are reported to be quite common in the South, Eastern Central and Sub-montane regions. This casts doubt upon the effectiveness of the pulling of cotton stalks as a control measure unless supplemented by the destruction of the alternative hosts. The Sub-Committee notes that the relative abundance of these host plants has been given in general terms, but that their actual effectiveness in aiding carry over of the pest has not been stated. In view of the possibility that these alternative host plants may ensure a considerable carry-over even in the absence of the cotton shoots, the Sub-Committee considers that this point should be carefully studied.

The Sub-Committee last year further considered that control by uprooting of cotton stalks should be ensured over an adequate area to render it effective and that if necessary less urgent items of the programme should be postponed. That this was not carried out was primarily due to the failure of the Surat Plant Puller to extract the plants in the Punjab without a large percentage of breakages. It is understood that efforts are in progress to construct a plant puller which will be more satisfactory. It considers that it is most desirable that a clean-up of cotton stalks should be effected either by the aid of a plant puller or by cutting out with some such implement as the Lantana Kudali used in Mysore. The Sub-Committee

understands that in the Canal Colonies alternative host plants are not likely to be of great importance in carry-over and suggest that a suitable locality should be utilised for the clean-up experiment.

The continuance of the study of the amount of damage done by the Spotted Boll-worm contrary to the recommendation of the Committee at its last monsoon meeting was explained as being on a small scale and not interfering with the carrying out of the remainder of the approved programme. It is recommended that item No. 2 of the programme of 1936-37 in which this work is proposed to be continued should be deleted; and that the remaining items should be approved with the addition to item 5 that in the survey of host plants special attention should be concentrated upon the extent to which Spotted Boll-worm was actually carried over.

The experimental clean-up of cotton stalks on an adequate area should be included in the programme to be undertaken from January 1937.

Punjab White Fly Scheme (No. 35).—The work under report was in confirmation and amplification of work previously reported upon preparatory to the writing up of the results of the whole investigation. The scheme terminates in September 1936. The report was approved.

Central Provinces and Berar Entomological Scheme (No. 36).—The report which contains a large amount of useful information obtained under difficulties was approved. We suggest that the attention of the Director of Agriculture be drawn to the reported unsatisfactory receipt of samples of green material by post, and that arrangements should be made by which the samples may be collected regularly by his field staff and despatched in suitable containers so that they may arrive in satisfactory condition and in sufficient quantity.

The determination of the incidence and method of carry-over of the Pink Boll-worm has been adequate and shows that the main source of Pink Boll-worm re-infection is from larvae in the soil. In view of the proposals in respect of the Hyderabad scheme it is not considered necessary to carry out further work at present on Pink Boll-worm in the Central Provinces.

A very important new observation is that *Heliothis (Chlorideas) obsoleta* is a serious boll-worm pest in the Central Provinces. This is a new observation for India, although this insect has been known as a serious cotton pest in Africa. A more detailed study of the attack and the life history of this pest is greatly to be desired. This should form the main part of the continuance of the investigation.

Of the 8 items in the programme for 1936-37 it is recommended that No. 2 should be dropped, as the removal of withered cotton shoots is unlikely to affect the subsequent egg-laying and intensity of attack. Items 6 (a) and (b) should be carried out only if the enquiry does not interfere with other work. Item 7 should be dropped, and item 8 also in view of the practical impossibility of eliminating Bhindi cultivation at present. The recommendations for continuance of the scheme are dealt with under Subject 68 (e).

United Provinces Pink Boll-worm Scheme (No. 37).—The Sub-Committee recommends that Mr. Richards should be requested to submit the Final Report on the United Provinces Entomological Scheme for consideration at the next meeting of the Indian Central Cotton Committee.

Hyderabad Pink and Spotted Boll-worm Scheme (No. 38).—The Sub-Committee is of the opinion that of the main items of the programme, the evaluation of the damage caused, and the progress of attack during the cotton season have been effectively determined; and that the investigation of carry-over has progressed satisfactorily, but has not been so conclusive, owing to inherent difficulties in the work, which has consequently required more time than was anticipated. Consequently the fourth item, of testing indicated control measures, has not been possible.

The net loss has been shown to be as high as 36 per cent. of the crop. Carry-over of Spotted Boll-worm appears to be dependent mainly upon cotton stalks and to a small extent upon other wild hosts. Pink Boll-worm survival is insignificant in seeds, important in unginned *kapas*, but most during May-June in the soil. Short cycle generations continue into May, and resting caterpillars of the long

cycle generation were found in large numbers in the soil in June about 3,400 to the acre. The indications are that control can only be effected by either ensuring that no resting caterpillars shall enter the soil, or that no moths shall emerge from it.

The observations recorded suggest that the early removal of cotton stalks after harvest would greatly reduce the number of hibernating larvæ, and we consider that this line of attack should be followed up in a soil examination programme and also on an extensive area under a clean-up scheme. This should at the same time effect control of the Spotted Boll-worm.

The Sub-Committee considers also that the effect of a fine soil mulch upon the emergence of moths should be investigated under controlled conditions in the laboratory prior to field tests.

The programme of work anticipates a continuance of the scheme. It is considered that the work should go on subject to conditions which are detailed under Subject 68 (f).

Punjab Root-Rot Scheme (No. 39).—The Sub-Committee feels that no very valuable results are likely to arise by the investigation referred to in paragraph XII onwards. It can see no indication that the optimum conditions of infection have been fully investigated. If this is not being done it suggests that the Officer-in-charge might give this his attention. It further suggests that it will be of advantage if Dr. Vasudeva were to visit Poona and discuss the matter with Dr. Uppal.

Baroda Root-Rot Scheme (No. 40).—In reference to the Secretary's remarks on paragraph 2, the Commissioner of Agriculture, Baroda, informed the Committee that steps had been taken to commence work of the kind referred to but that there were no visible indications that any effective results would be secured.

Mysore (Doddahathi) Cotton Scheme (No. 41).—The report is for 5 months. In considering the work done and the programme, the Sub-Committee remarks that the wide field of enquiry is rendered possible by the work of the supervising officers and post-graduate research students working under them; the staff appointed by the Indian Central Cotton Committee being upon breeding and testing of varieties only, which is shown as item 7 of the programme. The Sub-Committee approves the report and programme and desires the attention of Plant Breeders to be drawn to the availability of five varieties of wild cotton of which they can obtain seeds from Dr. Badami.

Madras Pempheris and Physiological Scheme (No. 42).—The Sub-Committee recommends the progress report for approval. Country cottons except Nadam, previously reported relatively free, were found to suffer more than Co. 2 when grown under similar conditions. High tolerance associated with high ginning percentage was again displayed by the Brazilian types. It is suggested that enquiry be made from Brazil upon the presence of Pempheris or an allied weevil.

The Sub-Committee approves the programme with the exception of C (iii) pathogenicity of bacteria, which has no practical application and should be dropped.

The Sub-Committee considers that as the Karunganni investigation is an independent piece of work it should be reported upon separately and in more detail.

Maltris Fodder Cholam Scheme (No. 43).—The Sub-Committee recommends the approval of the report and programme.

Sind Physiological Scheme (No. 44).—The Sub-Committee observes that the work on irrigation requirements has reached a stage at which definite recommendations are being made to the cultivator and the Sub-Committee was informed by Mr. Jenkins that the irrigation programme recommended in the printed leaflet could be put into action by the Irrigation Department for the bigger cultivators. On the manual side it is understood there is no need for further work under this scheme. The Sub-Committee and the Chief Agricultural Officer in Sind are both of opinion that the scheme should terminate on the 31st of March 1937 and not before that.

As regards red leaf, the Sub-Committee is of opinion that this is only one of many problems on various crops which require the attention of a physiologist in

Sind—a province which on account of its peculiar climate and soil conditions offers pressing and unusual physiological problems. The Sub-Committee trusts that some arrangements can be made in Sind for the carrying on of physiological work on crops.

The Sub-Committee recommends that the progress report be adopted.

Scheme for Survey of Goghari cotton in Gujerat (No. 45).—This scheme has proved useful in keeping cultivators and ginowners alive to the menace of Goghari and in both reducing the area under Goghari and diverting Goghari cotton into harmless channels. The staff will continue to be very useful now that the Cotton Control Act has been passed and will doubtless assist the smooth working of the Act. The staff is employed for only four months a year.

The Sub-Committee recommends that the progress report be adopted.

Scheme for Survey of cotton in Rohilkhand and Bundelkhand, United Provinces (No. 46).—This scheme is merely a reconnaissance of the varieties available. A very large number of these has been collected. The Sub-Committee notes that more than 50 per cent. of the samples have been selected from villages growing less than 10 acres of cotton each. As reported the scheme appears to be rather inconclusive, but the Sub-Committee is assured by Mr. Hutchinson that a great many useful types have been discovered and are being tried out at Cawnpore, Raya Farm, Shriganganagar and Indore. The scheme will terminate in February 1937 and there is no need to renew it.

The Committee recommends that the progress report be adopted.

Hyderabad Cotton Survey Scheme (No. 47).—The Sub-Committee accepts the reasons given for the non-presentation of this report.

Scheme for Survey of Goghari cotton in Baroda State (No. 48).—The Sub-Committee offers similar remarks to those made under Subject 45 above and recommends that the progress report be adopted.

Plant Puller Propaganda Scheme in Surat and Broach Districts (No. 49).—The Sub-Committee has no remarks to make. The progress appears to be reasonably satisfactory.

Plant Puller Propaganda Scheme in Baroda State (No. 50).—The Sub-Committee has no comments to make. Effective progress appears to have taken place in the Baroda District in spite of the fact that this is the first year of concentrated work. The Commissioner of Agriculture, Baroda, stated that during the forthcoming season it is intended that the work should be more closely on the lines of that adopted in Bombay, i.e., by greater concentration of *Kamgar* staff over a shorter period of time.

In connection with these two schemes (Nos. 49 and 50), the Sub-Committee recommends that the Director of Agriculture, Bombay, and the Commissioner of Agriculture, Baroda, should, after discussion, put up a joint scheme for the estimation of the effects on the cotton crop of the use of the Plant Puller. This forms a separate subject on the Agenda of the full Committee (Subject 82).

Scheme for Defibration of cotton seed in the Bombay Presidency (No. 51).—

Scheme for Defibrating and Delinting Plant in the Punjab (No. 52).—The Sub-Committee considered the progress reports on these two schemes together. On the basis of the reports and information available it was felt that the utility of the work in progress is not free from doubt and the Sub-Committee considers that a joint report should be submitted at the next meeting of the Agricultural Research Sub-Committee giving details of the economic value of the work in progress and indicating where possible co-ordination of the work under the two schemes could be effected. The Sub-Committee felt that greater attention ought to be paid to investigations into the economic aspects of the treatments under investigation. With regard to the Punjab scheme, it was decided that in the event of the defibrating machine proving unsatisfactory during the next season it should be returned to the firm by whom it was supplied. Pending fuller consideration of the work under these schemes at the next meeting of the Agricultural Research Sub-Committee, no further schemes of a similar nature should be considered by the Central Cotton Committee.

Annual Report of the Institute of Plant Industry, Indore (No. 53).—The part of the report which is of most direct interest to the Indian Central Cotton Committee occupies pages 8-43. This contains a condensed account of work on many aspects of botany, genetics, physiology, pathology and agronomy, much of which is of first class importance. The Sub-Committee considers that the limitations imposed by a printed report for general circulation preclude the submission of much information of value to the Research Committee and upon which it may wish to express opinion in detail. It agrees with Mr. Hutchinson that to write up progress reports in full will increase pressure of work on senior members of the staff, and lead to delay in final preparation for publishing, and suggest that the purpose may be served by forwarding copies or extracts of the annual reports submitted to the Director by the officers conducting the investigations.

The Sub-Committee notes that the staffing of the Chemistry and Agronomy Section is unbalanced, both the senior assistantships being held by temporary appointments (page 100). It considers that permanent well qualified incumbents are necessary to the efficient working of the Section. It also considers that it is desirable that the organisation of the section and the programme of work should be reviewed and if necessary revised. The Sub-Committee, therefore, proposes that a recommendation be made to the Board of Governors to appoint a small Committee of two Chemists to sit with the Director in the near future to report upon the work and needs of the section and to suggest the broad lines of the future research programme.

The Sub-Committee notes upon the comments on last year's report that it has not been possible to compare the Dharwar and Indore wilt fungus as facilities for doing so were not available; and that the comparison of the relative number of root hairs on wilted and non-wilted plants was not made as it was held that no effective comparison could be made of their functional activity. The remaining comments call for no further remarks.

The Sub-Committee draws attention to the following among many points of interest:—

Section 8 (a)—Page 8.—The classification of *Gossypium* is ready for publication.

Section 8 (b)—Page 9.—The survey of Malwa and Nimar cottons is expected to be ready for publication in a week.

Section 8 (b)—Page 10.—The old finer types which have been supplanted in the Nerbudda Valley and parts of Rajputana by short staple still exist in small quantities in mixture and could be recovered. Their development would depend upon their cash return. Mr. Hutchinson estimates that 10 per cent. improvement in quality on an equal yield basis is financially equivalent to only 1 per cent. increase in ginning percentage.

Section 8 (c)—Pages 10 and 11.—This contains the briefest reference to genetic work of the highest importance to plant breeders.

Section 8 (d)—Pages 12 and 13.—Attention is drawn to the possibilities of improvement by selection within a supposed pure strain; to the mill test on Malvi 9 which evoked an offer of Rs. 40 on Broach for all that could be supplied; and to the practicability of conducting plant breeding work on modern lines at distant outstations, as at Dhar, Badnawar, etc., with limited assistance and no laboratory facilities.

The opinion was expressed that some of the work reported upon on Section 9, page 15 *et seq* was redundant, or was on matters which the Indian Central Cotton Committee had decided to drop. It was generally felt that latitude must be allowed to workers, and that it was undesirable to preclude any line which they consider to bear upon their problem.

The Sub-Committee considers that quantities—as in the case of application of manures—should be stated in standard weights, preferably lbs. cwts.

Burma Cotton Improvement Scheme (No. 54).—The Sub-Committee notes that the actual reduction of demonstration plots is insignificant, i.e., a reduction from 75 to 71. It can scarcely be said to be in conformity with what the Cotton Committee recommended last year. Judging by the data on page 6, it would appear that steady progress in the general development of Agriculture is to be seen as the result of this intensive propaganda.

SEED DISTRIBUTION AND EXTENSION SCHEMES.

Final Progress Report on Hubli Scheme (No. 55).—The Secretary's note stresses the fact that the scheme never quite lived up to its promise of covering two lakhs of acres. Rao Bahadur Salimath explained that the three main reasons for this were (1) that all the produce did not come to the Society, (2) that the produce that came to the Society could not all be graded as it was not all sold by auction, but some of it was sold by private treaty, and (3) that the Society felt that it could not undertake the responsibility for purchasing seed on so large a scale. These various defects are being remedied in the new scheme which has now started and of which the keynote is decentralisation, so that no single agency has too great an area to cover or too great a responsibility to carry.

The Sub-Committee recommends the adoption of the report.

Final Progress Report on Gadag Scheme (No. 56).—In this case also the scheme did not cover the area projected, for similar reasons, and the remedy is the same.

The Sub-Committee recommends the adoption of the report.

Final Progress Report on Athani Scheme (No. 57).—The Sub-Committee considered the final progress report of this scheme. It was agreed to recommend to the full Committee that in the case of Seed Extension Schemes which have completed their allotted period, the final progress report should contain a "balance sheet" in which an attempt should be made to set forth the actual results of the scheme in pecuniary return to the cultivators. The progress report was recorded.

Surat Scheme (No. 58).—The Sub-Committee considers that the progress report was satisfactory and that the scheme should be continued on its present lines. It was noted that the extension of 1027 A.L.F. cotton seed under the scheme was being handicapped by the importation of large consignments of Khandesh cotton seed in the area in which the scheme is operating. The desirability of restricting such imports which could be used for sowing purposes should be brought to the attention of the Government of Bombay.

Khandesh (Banilla) Scheme (No. 59).—The Sub-Committee notes that no decision has yet been arrived at by the Bombay Government as to the previous suggestion of the Agricultural Research Sub-Committee that stages 3, 4 and 5 of the scheme should be financed in future by the local Government but it is understood that this matter is under consideration. The Sub-Committee considers the work under the scheme beneficial and notes that the question of the contribution of the Local Government to any future extension is a matter for consideration by the full Committee.

Deccan Canals (Banilla) Scheme (No. 60).—This scheme is self-supporting and the Sub-Committee considers that the progress report is satisfactory and that work on similar lines should be continued.

B.D. 8 Scheme (No. 61).—The Sub-Committee notes that the progress report of the scheme refers only to a period of 4 months work and consider that this period is insufficient to enable them to form any real appreciation of the value of the work being done.

Sind Scheme (No. 62).—The Sub-Committee considers that the work is being carried on satisfactorily. The progress report was recorded.

Madras Tiruppur and Co. 2 Scheme (No. 63).—The Sub-Committee notes that the differences between the Agricultural Department and the Co-operative Cotton Trading Society have now been satisfactorily cleared up and that the work under the scheme now appears to be proceeding in accordance with the original objects for which the grants were made.

Scheme for extension of long staple cotton and marketing of Verum cotton (No. 64).—The Sub-Committee considers that the progress made is satisfactory and approve the progress report of the scheme.

Hyderabad Scheme (No. 65).—The Sub-Committee considered the progress report together with the proposed application for extension of the Hyderabad Scheme. It was decided that as far as possible, the Director of Agriculture, Hyderabad, should endeavour to organise the initial stages of seed production, for the purposes of the scheme, in more than one area, i.e., Raichur, so as to minimise the danger of the scheme being seriously set back as a result of an adverse climatic season.

It was also agreed that future arrangements should be made in order to render the work as independent as possible of seed supply from the Bombay Presidency and that the production of seed in its initial stages should be centralised in Hyderabad State itself. The Sub-Committee's recommendation regarding the proposed extension will be found in the section of the report dealing with proposed extension of schemes.

Baroda (Nausari Seed Storage) Scheme (No. 66).—The Sub-Committee approved the progress report submitted under the scheme and considers that the work done was satisfactory.

United Provinces C. 402 Scheme (No. 67).—The Sub-Committee, in considering the progress report under this scheme, desires to bring to the notice of the full Committee the necessity for ensuring that any change in the type of seed, for the extension of which a scheme is originally sanctioned, should be reported to the Indian Central Cotton Committee for information and approval. Subject to the above observation the Sub-Committee notes that the progress report under the scheme is satisfactory.

II. PROPOSED EXTENSIONS OF SCHEMES.

Broach Cotton Breeding Scheme (No. 68-A).—The Sub-Committee feels that the scheme must be continued. In view of the fact that the Bombay Government are financing all cotton breeding work in Surat and cotton breeding work at Viramgaum, it is of the opinion that the Indian Central Cotton Committee should continue to bear the cost of the extension of the present Broach Cotton Breeding Scheme. It feels that extra staff is desirable but it does not feel that the cost of this should fall on the Indian Central Cotton Committee. The Sub-Committee recommends that it should be left to the Government of Bombay to provide an officer if they feel that in view of the pressure of work such an officer is essential. The Sub-Committee also suggests that as Baroda State stands to benefit considerably by the outcome of the work carried on at this station, it might be requested to consider and contribute to the extent of 10 per cent. of the total cost so as to reduce the cost to be borne by the Cotton Committee.

Jalgaon Cotton Breeding Scheme (No. 68-B).—The Sub-Committee feels that this scheme must be continued as the object for which it is started has not been achieved. There is no doubt that there has been an improvement in the cotton but wilt is still much in evidence. In view of the large contribution of Bombay Government to the station it is felt that the sum asked from the Indian Central Cotton Committee to enable extension should be granted.

Cotton Wilt Breeding Scheme at Poona (No. 68-C).—The Sub-Committee notes that the Secretary appears to have misunderstood the position. It is not intended that there should be any increase in the actual staff as sanctioned in the existing scheme. The sum of Rs. 20,000, which he includes as a saving does not exist as only two men are involved and not four. The scheme is a part and parcel of the Jalgaon and Broach schemes. It is a concentration of wilt research at Poona. The work being done is of fundamental importance and the Sub-Committee are of the opinion that extension should be given without any charge being made on the Bombay Government.

Plant Puller Propaganda Scheme in Surat and Broach Districts (No. 68-D).—The Sub-Committee is of the opinion that under the payable establishment (a) may be omitted, thus reducing the cost to Rs. 9,060.

Central Provinces and Berar Entomological Scheme (No. 68-E).—The Sub-Committee recommends that this be accepted. The subject matter has been discussed under Subject 36—Progress Report. It emphasises that the study of *Heliothis obsoleta* is of great importance and that this should be the main item of the research programme. It recommends that items Nos. 2, 7 and 8 of the programme be dropped and that item 6 (a) and (b) of the programme be undertaken only if it does not interfere with the work of the remainder of the programme. It also recommends that the extension for one year should date from the conclusion of the present sanctioned extension. The total cost will thus be Rs. 5,033.

In view of the Committee's decision in January 1934 that the practice of granting allowances to Local Government officers in charge of Committee's schemes should be discontinued, the Sub-Committee does not recommend the grant of an honorarium to Rai Saheb Dutt as proposed by the Director of Agriculture, Central Provinces. If, however, a proposal were received for the appointment of an Assistant, it would be duly considered.

Hyderabad Pink and Spotted Boll-worm Scheme (No. 68-F).—The Sub-Committee recommends that this scheme should be accepted with the following modifications and conditions :—

The Cotton Entomologist to be retained for one year in the first instance, on Rs. 475, primarily for further examination of soil carry-over of the Pink and Spotted Boll-worm under different treatments of soil and crop, and for such other of the investigations at Parbhani as can be carried out of the programme detailed on page 16 of Subject 38 and page 7 of Subject 68 (f).

The three recorders and statistical assistant should similarly be retained for work at Parbhani for one year. The Senior and Junior Research Assistants should be retained for two years at the proposed pay, but be stationed in Nanded district to carry out the proposed clean-up campaign on 400 acres. The staff for this purpose should be augmented for two years by :—

2 Junior Research Assistants.

1 Typist.

1 Peon.

The Sub-Committee proposes that the provision for clean-up scheme should be subject to the Hyderabad Government agreeing to issue the necessary instructions through their Revenue staff to ensure that the cultivators or owners of the fields will carry out the prescribed measures ; and on the understanding that if successful the work should be continued thereafter by the Hyderabad Government.

The cost will be approximately Rs. 26,350 in the first year and Rs. 18,000 in the second, say, rounded Rs. 45,000 for the two years from October 1st, 1936. This is in addition to the cost of the temporary extension already sanctioned to September 30th, the cost of which is Rs. 9,535.

If it is not possible to expand the scheme as proposed, the Sub-Committee strongly recommends a continuance with the present staff for twelve months from September 30th at a cost of approximately Rs. 21,500.

Baroda Root-Rot Scheme (No. 68-G).—The Sub-Committee passed the scheme with certain minor alterations as suggested by the Commissioner of Agriculture, Baroda. The Commissioner of Agriculture, Baroda, accepted the suggestion made by the Secretary, Indian Central Cotton Committee, that Baroda should meet items 2 and 3 thus increasing their commitments by Rs. 700. On the other hand he pointed out that on further consideration of the position he was of the opinion that as Baroda State were more likely to provide a Plant Breeding Assistant it was desirable that the second breeding Assistant as stated in the establishment details should be a Pathological Assistant, in other words that the pathological Assistant now employed should be continued as an employee of the Indian Central Cotton Committee. This would entail an alteration of the item Rs. 7,055 to Rs. 8,400, an increase of Rs. 1,345. The Sub-Committee accepted the proposal in view of the explanation given by the Commissioner of Agriculture, Baroda.

SEED DISTRIBUTION AND EXTENSION SCHEMES.

Hyderabad Scheme (No. 69-A).—The Sub-Committee recommends that the extension applied for should be granted subject to the condition that at least 50 per cent. of the amount applied for is met by the State itself.

Scheme for extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar (No. 69-B).—The Sub-Committee considered the proposal for the extension of the scheme dealing with long staple and marketing of Verum cotton in the Central Provinces and Berar, which requires the sanction of the Government of India. With regard to the budget estimates submitted, the Sub-Committee noted that the pays of departmental officers deputed for certain periods in the year by the Central Provinces Government for the purposes of the scheme were being debited in full to the grants allotted for the scheme. The substitutes engaged by the Central Provinces to carry on the ordinary duties of the staff on loan were being paid on a considerably lower scale. The Sub-Committee is of the opinion that, under such circumstances, the grants for the Committee's schemes should only be debited with the actual out-of-pocket expenses of a Provincial Government. The Sub-Committee also recommends to the full Committee that in future, when departmental officers are employed on schemes, financed by the Central Cotton Committee, the grants made by the Committee should be limited solely to the out-of-pocket expenses of the Local

Government, based upon the actual pay given to the substitute entertained in place of departmental officers employed temporarily on such schemes. The Sub-Committee considers that the budget estimates of the scheme under consideration for the period of extension applied for should be revised in the light of the above recommendation and re-submitted for approval.

Madras Tiruppur Scheme (No. 69-C).—The Sub-Committee recommends that the extension applied for should be granted subject to the Local Government providing Rs. 2,656 being the estimated cost of the pay and travelling allowance of the Business Manager, for the year 1937-38. The Committee's contribution would thus be limited to Rs. 3,890 up to 15th September 1937.

III. PROPOSED NEW SCHEMES.

Scheme for breeding wilt resistant cottons for Surat area (No. 70-A).—It appears necessary to establish a wilt-resistant variety of cotton in Surat and the Navsari District of Baroda State. 1027 A.L.F. though satisfactory in other ways is highly susceptible to this disease. There are appreciable areas of wilt infection for which B.D. 8 is the only cotton which can be offered. It is undesirable to introduce wilt on to the Surat Farm while 1027 A.L.F. will not do satisfactorily under Broach conditions. The only solution appears to be that suggested by the Bombay Government. The scheme is inexpensive and may be of considerable value. The Sub-Committee therefore recommends it.

Schemes for the improvement of Dholleras cottons (No. 70-B).—The Sub-Committee, after examining the various proposals before it, is of the opinion that the most satisfactory way of dealing with the several problems is best secured by the creation of two stations one at Viramgaum concentrating on Wagad cottons, and the other at Amreli dealing with Mathio selections and the later trials of possibly suitable Wagads as evolved at Viramgaum. The Sub-Committee accepted the suggestion of the Commissioner of Agriculture, Baroda, that a small immune area should be maintained at Jagudan protected by irrigation so as to safeguard the work at Viramgaum. On this it examined and amended the proposals made by the Bombay and Baroda Governments making deductions or additions as under:—

	Additions.	Savings.
Item 4—Viramgaum proposal to be eliminated		Rs. 2,340
Item 16—Viramgaum proposal to be reduced by Rs. 200 per acre		.. 1,000
Item 18—Viramgaum proposal Rs. 3,000 to be deleted		.. 3,000
Item 19—Viramgaum proposal to be halved		.. 1,250
Items 22, 23, 24—Viramgaum proposal to be reduced to a total of Rs. 4,900 and transferred to Amreli		.. 5,500

Additions to be made to the proposal of the Commissioner of Agriculture, Baroda, on page 2 of his letter:—

(1) Provident Fund and leave of staff (omitted) ..	Rs. 1,920
(2) Seeding for breeding purposes	.. 1,250
(3) Transfer of staff, items 22, 23 and 24 of Bombay proposals to be maintained at Jagudan	.. 4,900

Rs. 8,070	Rs. 13,090
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The gross cost of the two stations plus the Jagudan immune area would thus be—

Viramgaum ..	Rs. 27,110	Amreli ..	Rs. 16,670
		Jagudan ..	.. 4,900
			<u>Rs. 21,570</u>

The Sub-Committee was of the opinion that the breeding work at the several centres should be under a single control and as the Commissioner of Agriculture, Baroda, agreed, it was decided that all the work should be controlled by the Cotton Breeder who was being appointed by Bombay to hold charge at Viramgaum.

The Sub-Committee recommends that the Geneticist and Botanist, Indore, should visit once a year and be in a position to report any difficulties should any arise.

It also recommends that the temporary work instituted at Jamnagar should be continued this year and the products handed over to the Cotton Breeder, Viramgaum.

It further recommends that the Iran collection of herbaceums on their receipt should be sent to Viramgaum.

*Scheme for the improvement of Kumpta cotton in Hyderabad State (No. 70-C).—*Rai Sahab Kalidas Sawhney explained that Jayawant did well in the western part of Raichur District, but not in the east for which he wished this scheme to develop certain Kumpta types selected from the local crop and which were very promising. He proposes to go in first of all for yield and ginning percentage. There are about 300,000 acres which would be suitable for any cotton produced under the scheme.

The Sub-Committee recommends the adoption of the scheme as a large and important cotton area is concerned. This area which at present grows a relatively short staple cotton is surrounded by long staple areas growing Jayawant, Hagari and Gaorani. It is, therefore, desirable to improve the staple of the area in question. The Hyderabad State is putting up a considerable amount of the requirements of the scheme.

In regard to the proposals for staff the Sub-Committee recommends the deletion of the provision for the Junior Research Assistant.

*Scheme for the distribution of pure Verum cotton in the Mehker Taluq, Central Provinces (No. 71-A).—*The Sub-Committee considers that it would be inadvisable to make grants to such bodies as Taluka Development Associations for propaganda and touring parties and recommends that the application be refused.

*Inclusion of Northern and Western cottons in the programme of work of Dry Farming Scheme at Bijapur (No. 78).—*The Sub-Committee recommended at its August 1935 meeting when considering the question of the possibility of growing long and medium staple cottons in the short staple tracts that in so far as the Bijapur tract is concerned, the Imperial Council of Agricultural Research might be requested to include experiments with Northern and Western cottons in their investigations on dry cultivation. The Council were accordingly addressed and have since consented to the proposed work on cottons being undertaken at the Bijapur sub-centre, provided the additional cost on this account, estimated by the Director of Agriculture, Bombay, to be Rs. 1,230 for recurring and Rs. 550 for non-recurring is borne by the Committee. The Sub-Committee recommends that this investigation be undertaken for a period of one year in the first instance and that the Director of Agriculture, Bombay Presidency, be informed accordingly.

IV. REPORTS OF TECHNOLOGICAL ASSISTANTS.

Report of the work of Technological Assistants.

- (a) *Lyallpur,*
- (b) *Coimbatore,*
- (c) *Dharwar,*
- (d) *Surat, and*
- (e) *Sind.*

Mr. Rajaraman.—The Sub-Committee is of opinion that this is a rather unsatisfactory report as so little detail is given and no indication of the character of the samples. The Director, Technological Laboratory, has already commented on this. The Sub-Committee does not quite understand the programme for 1936-37 in which the assistant proposes to study the growth of the cotton plant in the field and acquaint himself with its life history and apparently to consult the Director, Technological Laboratory, for further problems without much reference to the local cotton breeder.

Mr. R. L. N. Iyengar.—The Director, Technological Laboratory, has already commented on this and the Sub-Committee agrees that it is a satisfactory report.

Mr. Ramanatha Ayyar explained the point mentioned in the last paragraph of Section 2 (a) of the remarks of the Director, Technological Laboratory, and stated that one locule from each plant had been taken and hence the sample was truly representative.

Mr. H. R. Nayak.—The Sub-Committee agrees with the remarks of the Director, Technological Laboratory, and considers that the Technological Assistant should concentrate on the effect of climatic conditions, rainfall, temperature and locality on the yield and quality of Jayawant cotton and that the research work on the effects of various doses of manure need not continue. It is also of opinion that work on the effect of rotational crops need not be undertaken. The Sub-Committee questioned the statements made under the heading "ginning percentage" on page 12 of the cyclostyled report.

The Sub-Committee is of opinion that the Director, Technological Laboratory, should settle finally the size of the sample that should be utilised and that this might be taken up some time at the next Technological Assistants' conference or refresher course.

Mr. Srinagabhushana.—The Sub-Committee thinks that further information is required on the preliminary hand tests described in the first paragraph of the report both as to the sources of the samples and method. The Sub-Committee would be glad of further explanation of what is meant by the phrase "natural environmental spread in fibre characters" which occurs in the Technological Assistant's paragraph on "Future Work" on page 16 and in the remarks of the Director, Technological Laboratory, on page 17. It is presumed that this has some connection with the effect of environment on fibre characters and to that extent the Sub-Committee regards the work as desirable, but the Sub-Committee suggests that samples should be taken truly representative of widely different environments in order to get a clear idea of environmental effect.

Mr. K. S. Marar.—The Sub-Committee regards problem (4) as of first class importance and is somewhat doubtful of the usefulness of problem (1) which seems rather academic. In any case there is no definition of what is meant by a badly opened boll, i.e., whether it has been affected by an insect, etc., and (2) there is no indication whether the assistant intends to take the good fibre or the damaged fibre from such a boll. There is no indication either that bolls of the same age will be used.

V. RESEARCH STUDENTS.

The Sub-Committee considers that the progress report of Dr. K. B. Lal indicates that Dr. Lal is making good use of his studentship and is being directed on the right lines. The programme for 1936-37 and the report are recommended for approval.

Mr. G. B. Patel's report appears to be good. It has not been possible to read his thesis in detail and it is suggested that similar theses in future might be passed on to a specialist member of the Agricultural Research Sub-Committee as soon as received and his opinion placed before the latter at the following meeting. The Sub-Committee is informed that the M.Sc. degree has been granted.

Mr. Nazir Ahmad's work is well reported on by his Professor.

The Sub-Committee recommends that Mr. P. Abraham be permitted to avail of the training grant awarded to him whenever facilities for his training in cytology are available.

The Sub-Committee considered an application from Mr. Kider Nath Trehan, who at the last meeting of the Committee was granted a training grant of Rs. 150 per month for training in applied Entomology at Rothamsted, requesting that one of the conditions of the grant, viz., that, if required, he should serve the Punjab Government or the Committee for a period of three years on his substantive pay as an Agricultural Assistant should not debar him during the period of its applicability from applying for or accepting a post with higher emoluments or better prospects than his substantive pay either under the Punjab Government or the Committee. The request was not acceded to.

VI. GENERAL.

Plant Puller Propaganda Scheme in Baroda State—Application for additional grant (No. 77).—The Sub-Committee suggests that the application from the Commissioner of Agriculture, Baroda, for increasing the grant for the Baroda Plant Puller Propaganda Scheme be dealt with by the Standing Finance Sub-Committee after the details of expenditure on the Bombay Plant Puller and Propaganda Scheme are obtained from the Director of Agriculture, Bombay Presidency.

Renaming of Bikaner Gang Canal Scheme.—The Sub-Committee recommends that the scheme in connection with the work being done at present on Bengals cotton at Bikaner be named the Bikaner Bengals Cotton Improvement scheme.

Application from Mr. V. Ramanatha Ayyar, Cotton Specialist, Coimbatore, for financial aid from the Committee to visit world cotton centres and research stations.—A request from Mr. V. Ramanatha Ayyar, Cotton Specialist, Coimbatore, for financial aid from the Committee to visit world cotton centres and research stations was considered. The Sub-Committee was unable to support the request.

Bengal (Comilla) Cotton Scheme—Purchase of a compound Microscope.—A request of the Cotton Research Officer, Rangamati, for the supply of a compound microscope in connection with his work on the Bengals (Comilla) Cotton Scheme was considered. As the Sub-Committee felt that a microscope was not necessary for the work, the request was not acceded to. It considered, however, that if the Cotton Research Officer was still desirous of having a microscope, he should borrow one from the Department of Agriculture, Bengal.

Madras Pempheres and Physiological Scheme—Consideration of the orders of the Madras Government on the status of Mr. K. Dharmarajulu, Assistant Botanist.—A representation from Mr. K. Dharmarajulu, Assistant Botanist, in the Madras Pempheres and Physiological Scheme, regarding his status was considered. Subject to the concurrence of the Madras Government, the Sub-Committee decided to offer Mr. Dharmarajulu the post of Senior Assistant in the proposed new scheme for the improvement of Kumpta cotton in the Hyderabad State.

Scheme for the control of Pink Boll-worm in the United Provinces (No. 81).—The note from the President was recorded. It was decided to defer action till after the Bill had been passed and when definite proposals for a scheme had been received.

P. H. RAMA REDDI.

APPENDIX XII.

SUBJECT 74.—*Report of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet as at 31st March 1936.*
- (b) *Final Accounts, 1935-36.*
- (c) *Revised Estimates, 1936-37.*
- (d) *Budget for 1937-38 (Government servants).*

Five meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee in January 1936. Rao Bahadur G. R. Kothare, having retired, his place on the Sub-Committee was filled by Sir Chunilal V. Mehta. In the vacancies caused by the resignations of Messrs. G. C. R. Coleridge and A. A. Sarantides, Messrs. A. P. Darlow and M. S. Durutti, who succeeded them on the Committee, were appointed.

2. A Balance Sheet of the Committee's accounts as at March 31st, 1936, is submitted. This shows the income and expenditure under the budget heads from the beginning of the cotton cess, *i.e.*, for 13 years, and has been prepared from the audited accounts. A Balance Sheet of the Provident Fund is also enclosed.

3. A Statement of Accounts for the year 1935-36 as audited by the Committee's Auditors is attached, together with the detailed Final Accounts. From this it will be seen that cotton cess receipts came up to Rs. 6,82,678-0-1 against a revised estimate of Rs. 6,50,000. Interest on investments amounted to Rs. 1,22,039-8-5 against Rs. 1,24,000 estimated, the reduction being due to the sale of some securities to meet current requirements. The Miscellaneous Receipts amounted to Rs. 2,06,835-12-5 as against Rs. 2,01,000 estimated, the difference representing receipts from sales effected in the various Committee's schemes. The expenditure came to Rs. 11,40,629-2-1 against the revised estimate of Rs. 13,20,510. There were savings practically under every head of expenditure and these have been re-allotted for future use, if necessary, except the savings under "Administration," "Improvement of Cotton Marketing," "Printing and Propaganda," "Technological Laboratory—Working" and "Research Studentships." The Closing Balance on the 31st March 1936, was Rs. 25,24,131-9-1 against Rs. 26,52,020-8-3 last year, and Rs. 12,78,674 as shown in the five years statement prepared in 1934. A statement of the Provident Fund account is also attached.

4. The Revised Estimates of Receipts and Expenditure for the current year are enclosed and are subject to such alterations as may be necessary consequent on the recommendations of the various Sub-Committees and the approval of their full Committee. No change has been made in the estimates for cotton cess, interest and other receipts.

Required modifications will be given effect to at the cold weather meeting of the Committee when more accurate estimates are possible. Expenditure has been estimated at Rs. 12,38,337-8-1 against the sanctioned budget estimates of Rs. 11,46,167, the increase of Rs. 92,170-8-1 being chiefly due to re-allotments and additional requirements under various schemes.

5. As required by the Cotton Cess Rules, the Budget for 1937-38 for the pay of Government servants employed in the Committee's office is submitted for formal sanction.

6. The Sub-Committee dealt with the Government Accounts for 1935-36 for the fumigation of American cotton, and its recommendations form a separate subject on the agenda of the Committee.

7. The Punjab Cotton Failure (Physiological) Scheme was originally sanctioned by the Committee in August 1933, at a total cost of Rs. 1,06,530 spread over a period of five years. Owing, however, to the appointment of Professor R. H. Dastur as Plant Physiologist on a higher scale pay than that originally sanctioned and to the payment on his behalf of leave and pension contributions and also to the appointment of additional staff, the Sub-Committee at its meeting on the 20th September 1935, sanctioned an additional grant of Rs. 42,303 thus raising the total grant to Rs. 1,48,833. At its last meeting the Committee considered revised proposals for work in connection with this scheme during the remaining four years of its sanctioned period at an estimated additional expenditure of Rs. 84,725. The Committee did not approve of the revised proposals in full, but sanctioned the extra grant necessary for a period of one year *only* in the first instance. The Committee, however, approved of the appointments of Dr. S. S. Verma, as Assistant Physiologist, of an experienced clerk and a peon for the remaining full term of the scheme. In accordance with these recommendations the Sub-Committee sanctioned an additional grant of Rs. 37,587 as per details furnished by the Director of Agriculture, Punjab. The total grant thus sanctioned so far by the Committee for this scheme amounts to Rs. 1,86,420 spread over a period of five years.

8. At its meeting held in August 1934, the Committee resolved to contribute to the Institute of Plant Industry, Indore, for a period of three years from 1935-36 a minimum sum of Rs. 85,000 per year for purposes of research work in cotton—the programme for such work for each year to be approved by the Committee. The Committee also agreed to consider applications for supplementary grants for cotton research on the approved programme, if necessary. In accordance with the above decision the Sub-Committee considered the detailed budget for 1936-37 as passed by the Board of Governors of the Institute of Plant Industry at its meeting held on the 1st February 1936, and sanctioned a supplementary grant of Rs. 26,000 for the current financial year. The Sub-Committee also decided that the selection of research students to be trained at the Institute should, in future, be made by the Committee, and that the travelling allowance of the Director of the Institute and other members of the staff for attending the meetings of the Committee be hereafter borne by the Committee.

9. On the recommendation of the Cotton Forecast Improvement Sub-Committee, the Committee at its meeting in August 1933, sanctioned, among others an enquiry into the village or extra-factory consumption of cotton in Sind at an estimated cost of Rs. 2,500. The enquiry commenced in June 1934, and lasted till May 1935. Representative villages in each of the three cotton growing districts of Hyderabad, Thar Parkar and Nawabshah were investigated. The report on the enquiry was considered by the Cotton Forecast Improvement Sub-Committee in August 1935, and as there was wide divergence between the figures for per family consumption of cotton in Sind for domestic purposes and the corresponding figures obtained from the Punjab Enquiry, it was decided that the report should be referred back to the Chief Agricultural Officer in Sind for verification of the figures, and for furnishing, if possible, figures *per capita* instead of per family consumption. The Cotton Forecast Improvement Sub-Committee at its last meeting further recommended that as no non-cotton-growing district of Sind was investigated during this enquiry, the consumption of cotton in the villages of Larkhana be investigated. In pursuance of this decision, the Sub-Committee considered proposals of the Chief Agricultural Officer in Sind and sanctioned a supplementary grant of Rs. 622-13-0 for the completion of the enquiry in Larkhana district.

10. At its last meeting the Technological Research Sub-Committee considered a letter from the Vice-Chancellor, Bombay University, informing the Committee that Dr. K. Venkataraman, Reader in Dyeing in the University, intended to undertake a study tour in Europe in the summer of 1936 and that if the Committee desired him to utilise a part of his tour to study the production of staple fibre in Germany and England, he would be permitted to make a report to the Committee on his return, provided necessary facilities were arranged for him by the Committee. The Technological Research Sub-Committee accepted the offer of the University and decided that if any monetary help was required, the matter should be referred to the Standing Finance Sub-Committee. It was also agreed that the Secretary should consult Mr. Fred Stones regarding the question of obtaining facilities for Dr. Venkataraman to visit large manufacturing establishments in Germany and England, and if no satisfactory arrangements could be made, the matter should be referred to the President who would write to the Indian Government Trade Commissioners and to the High Commissioner for India. As the Secretary could not make any satisfactory arrangements for Dr. Venkataraman, the matter was referred to the President, but he also intimated that facilities could not be arranged. The Sub-Committee accordingly decided that the Vice-Chancellor of the Bombay University should be informed that Dr. Venkataraman, need not undertake any work for the Committee during his leave in Europe.

11. At its last meeting the Committee appointed an Expert Sub-Committee to select a successor to the Bio-Chemist on the Punjab Cotton Failure (Physiological) Research Scheme, who had resigned. As several of the appointed members could not attend the meeting of the Expert Sub-Committee on the date fixed, an interviewing Sub-Committee consisting of the President, Dr. F. J. F. Shaw, Rao Bahadur B. Vishwanath and Professor R. H. Dastur, interviewed five candidates and their report recommending three names in order of merit was circulated to the members of the Expert Sub-Committee for their approval. The members of the Expert Sub-Committee unanimously approved of the appointment of Dr. K. M. Samant, who had been placed first in the order of merit, and his appointment was confirmed by the Standing Finance Sub-Committee.

12. The Sub-Committee granted leave on full average pay for eleven days from the 6th to the 16th March 1936, to Mr. R. D. Mihra, Publicity Officer of the Committee.

13. At its meeting held in August 1935, the Committee sanctioned the Revised Jayawant and Gadag-I Seed Scheme in the Southern Division of the Bombay Presidency at a net additional cost of Rs. 1,78,000 spread over a period of five years, provided the Bombay Government agreed to bear 25 per cent of the net grant. The Sub-Committee considered a letter from the Director of Agriculture, Bombay Presidency, intimating that the Bombay Government had agreed to contribute for one year only 25 per cent. of the average annual net additional grant required to run the scheme, viz., Rs. 8,900, and allowed the scheme to be started and run for one year pending consideration at this meeting of the Committee of the general principle regarding local Governments bearing a share of the cost of schemes financed by the Committee. This forms a separate subject on the agenda of the Committee (Subject 72).

14. The Sub-Committee at two of its meetings dealt with the question of the award of research studentships at the Institute of Plant Industry, Indore, and decided to leave the further consideration of the subject to the full Committee. This subject has accordingly been brought as a separate item on the agenda of the Committee. (Subject 75).

15. The Sub-Committee agreed to a recommendation of the Director, Technological Laboratory, that the Technological Laboratory should undertake tests on the Shirley Analyser for private firms at a charge of Rs. 7-8-0 per sample provided that such tests did not interfere with the normal work of the Laboratory.

16. The Committee at its meeting held in January last delegated powers to the Standing Finance Sub-Committee to settle finally the administrative changes that may be necessary in the Secretary's office owing to the appointment of Deputy Secretary being held in abeyance by the Government of India after the consideration of a report by the Secretary on the working of the present arrangements. The Sub-Committee considered the report of the Secretary and agreed that the present post of Personal Assistant to the Secretary, temporarily sanctioned for one year, should be made permanent in the scale of Rs. 500-25-800 with its designation changed to that of Assistant Secretary and that Mr. C. J. Bocarro, be appointed thereto, and that the post of Deputy Secretary should not be filled.

17. The Sub-Committee approved of the appointment of the following members as the representatives of the Committee on the Board of Governors of the Institute of Plant Industry, Indore, during the year 1936-37 :—

- | | |
|--------------------------------|--------------------------------|
| 1. The President, | 6. Sardar Rao Bahadur Bhimbhai |
| 2. Sir Purshotamdas Thakurdas, | Ranchodji Naik. |
| 3. Mr. Chunilal B. Mehta, | 7. Mr. Kasturbhai Lalbhai, |
| 4. Mr. S. D. Saklatvala, | 8. Mian Nurullah, |
| 5. Mr. J. Vonesch, | 9. The Secretary. |

18. The Sub-Committee appointed a small *ad hoc* Sub-Committee consisting of the Vice-President, Dewan Bahadur Sir T. Vijayaraghavacharya, Dr. W. Burns and Mian Nurullah, to consider the present and future relations between the Secretary's office and that of the Publicity Department. The *ad hoc* Sub-Committee met on the 3rd and 4th July 1936, all members except Dr. Burns being present and its findings are given below :—

“We have discussed with the Secretary and the Publicity Officer the matters in difference between them and we have come to the conclusion that the differences are due to a misapprehension on their part of their relative positions. It has never been the intention of the Indian Central Cotton Committee to constitute the Publicity Officer as a separate Officer independent of the Secretary, nor to treat the clerk, the typist and the peon attached to him as a separate office apart from the Secretary's office. The correct position is that the Publicity Officer is a part of the Secretary's office and the small staff attached to him is also a part of that office. In brief, the Publicity Officer and the staff referred to constitute a section of the Secretary's office. It follows, therefore, that it is for the Secretary, as head of the office, to make such arrangements and issue such orders as are necessary for the efficient and punctual conduct of the work of the Publicity Section, and it is for the Publicity Officer to see that these instructions are carried out. We are confident that now that both officers have realised their relative positions there will be no further occasion for differences of opinion and that the consequential orders that the Secretary will now have to issue will be such as will conduce to the best results being obtained from the Publicity Section. The Standing Finance Sub-Committee has always looked to its Secretary as its mouth-piece and executive authority and it is important that the integrity of this principle should be maintained.

“In view of the above, we have not thought it necessary to go into the details of the comparatively small points referred to in the Audit Report. We, therefore, suggest that the explanations of the Publicity Officer be approved.

“Dr. W. Burns was unable to attend our meetings on 3rd and 4th instants as he was away at Simla.”

The Sub-Committee at its subsequent meeting approved of the above findings.

The Sub-Committee also confirmed the action of the *ad hoc* Sub-Committee in accepting the explanations given by the Publicity Officer with regard to two items held under audit objection, the first relating to an amount of Rs. 63-3-6 on account of contingent expenditure for which no payees' receipts were available and the second to an excess stock of service stamps of the value of Rs. 5 which could not be accounted for.

19. The Sub-Committee considered a representation from Professor R. H. Dastur, Plant Physiologist, Punjab Cotton Failure (Physiological) Research Scheme for an increase in his emoluments but were unable to accede to his request.

20. The Sub-Committee considered a request from the Coffee Cess Committee for the services of Mr. M. J. Simon, permanent Statistical Assistant in the Secretary's office and officiating as Superintendent, for appointment as Secretary of that Committee and decided to allow him to accept the post. The Sub-Committee also allowed Mr. Simon, to retain a lien on his post in this office till such time as his substitute was confirmed.

21. At the request of the Director of Agriculture, Madras, the Sub-Committee sanctioned the extension of the appointment of the Business Manager, Madras Tiruppur Seed Distribution Scheme, from the 18th May 1936, to the 15th August 1936, at an estimated cost of Rs. 1,400 to be met from savings of the grant sanctioned for the scheme.

22. The Committee at its last meeting sanctioned an interim extension to the Hyderabad Pink and Spotted Boll-worm Scheme, for a period of four months, i.e., up to the 30th September 1936. As the Central Provinces and Berar Entomological Scheme is run in collaboration with the Hyderabad Pink and Spotted Boll-worm Scheme, the Sub-Committee sanctioned also the extension of the Central Provinces and Berar Entomological Scheme up to the 30th September 1936, pending consideration of the further extensions of these schemes at this meeting of the Committee. These form separate subjects on the agenda of the Committee. (Subjects 68(e) and (f)).

23. The technological Research Sub-Committee at its last meeting accepted the offer of Mr. N. Brodie, Director, Industrial Intelligence and Research Bureau, Indian Stores Department, to find out the relative costs and suitability of the various processes of the manufacture of artificial silk in India. As Mr. Brodie, had no special staff for this purpose he requested the loan for six months in the first instance of the services of Dr. L. Thoria, who has been appointed a temporary chemist in the Technological Laboratory to start an investigation into the tensile strength and elasticity of acetate material prepared from the various short staple Indian cottons, cotton waste, rags, mill droppings etc. The Sub-Committee considered the request of Mr. Brodie and, in view of the fact that Dr. Thoria would be unable to complete his Laboratory work and final report before this meeting of the Committee, decided to refer the request to the Technological Research Sub-Committee at this meeting. This subject is accordingly included in the agenda of the Technological Research Sub-Committee and its recommendations will be found in its report to the Committee.

24. The Sub-Committee sanctioned the request of Mr. D. L. Sen, Chemist, Technological Laboratory, who was granted by the Committee in February 1935, twelve months' study leave in England, to visit on his way back to India, the Alexandria Testing House and Giza Experimental Station in Egypt and to return to Port Said through Cairo. The Sub-Committee also granted Mr. Sen, railway fares from Alexandria to Cairo and from Cairo to Port Said and halting allowance for five days in Cairo at £1 per day.

25. The Sub-Committee appointed Mian Nurullah and Mr. M. P. Kolhe, from among the growers' representatives on the Committee as Directors of the Board of the East India Cotton Association for the remainder of the Cotton Season, 1935-36, in the places of Sardar Sampuran Singh and Mr. N. M. Deshmukh, whose terms of appointment on the Committee expired on the 1st April 1936.

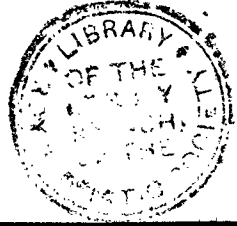
26. Owing to the appointment of the officiating Superintendent as Secretary to the Coffee Cess Committee, the Sub-Committee considered proposals for filling the post of Superintendent of the office. The Sub-Committee agreed to the appointment of one of the candidates recommended by the Secretary, who was a servant of the Bombay Government, for a period of one year and desired that the principle of borrowing Government servants might be considered and decided by the full Committee. The Bombay Government have refused to lend the services of the selected candidate. The Sub-Committee at its subsequent meeting appointed Mr. A. S. Iyengar, to the post of Superintendent for a period of one year on a starting pay of Rs. 375 in the scale of pay of Rs. 350-375-20-450-25-500. The Subject of appointing Government servants to the post of Superintendent in the Secretary's office is dealt with separately on the agenda of the Committee. (Subject 76).

27. The Sub-Committee considered a letter from the Imperial Council of Agricultural Research and approved of the appointment of Dr. Nazir Ahmad, Director, Technological Laboratory, as a member of the Advisory Board of the Indian Lac Cess Committee, provided his travelling allowance was paid by that Committee.

28. The Sub-Committee sanctioned an advance of Rs. 3,000 to the Secretary of the Committee for the purchase of a motor car in accordance with Note 5 to Article 156 of the Civil Account Code, the amount of the advance being repaid in 36 instalments with interest at $3\frac{1}{4}$ per cent. as laid down in the rules.

29. The Sub-Committee sanctioned the appointment of an additional peon for the Publicity Section of the Secretary's office.

30. The Sub-Committee sanctioned a duty allowance of 25 per cent. of his pay to Mr. S. C. Roy, during the period he officiated as Economic Botanist for Cotton, Central Provinces, in the place of Mr. D. N. Mahta on leave.



Summary Proceedings

of the

Thirty-fourth Meeting of the
Indian Central Cotton Committee,
Bombay,

held on the

2nd and 3rd March 1937.

[Price Re. 1]



Indian Central Cotton Committee.

With the Secretary's Compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

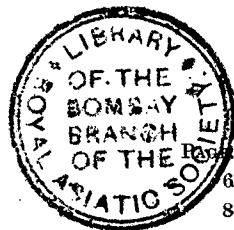
INDIAN CENTRAL COTTON COMMITTEE.

34TH MEETING—2ND AND 3RD MARCH 1937.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS.

AGENDA.



- | | |
|---|----|
| 1. Presidential Address | 6 |
| 2. Confirmation of Minutes | 8 |
| 3. Retirement of Members by rotation | 8 |
| 4. Appointment of Vice-President and Sub-Committees | 8 |
| 5. Proposed holding of a cold weather meeting of the Committee at Lyallpur.. | 13 |
| 6. Cotton Transport Act—Surat Area—Baroda Government Notification No. 3 of 10th September 1936 | 14 |
| 7. Formation of the Holkar State Cotton Committee | 14 |
| 8. Provincial Cotton Committees—Proceedings of the Sind Cotton Committee .. | 14 |
| 9. Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee | 14 |
| 10. United Provinces Cotton Pest Control Act and Draft Rules thereunder .. | 15 |
| 11. Establishment of regulated cotton markets— | 16 |
| (a) Bombay Presidency, | |
| (b) Madras Presidency, | |
| (c) Central Provinces, and | |
| (d) Punjab. | |
| 12. Central Provinces Cotton Market (Amendment) Act, 1936 | 16 |
| 13. Cotton Ginning and Pressing Factories Act—Progress made in Indian States— | 16 |
| (a) Balasinor State. | |
| (b) Bansda State. | |
| 14. Cotton Ginning and Pressing Factories Act | 16 |
| (a) Proposed introduction of the system of licensing of ginning and pressing factories in the Punjab. | |
| (b) Draft Rules under Central Provinces Amendment Act, 1936. | |
| (c) Draft Rules under Bombay Amendment Act, and Draft Notification. | |
| 15. Representation of Bombay cotton dealers regarding hardships arising from the application of Section 14 of the Cotton Ginning and Pressing Factories Act of 1925 | 19 |
| 16. Half-yearly Report of the Publicity and Propaganda Officer | 20 |
| 17. Summary of Proceedings of the Local Sub-Committee | 20 |
| 18. Reports of enquiries into the village consumption of cotton in | 21 |
| (i) Bihar, and | |
| (ii) Sind. | |

19.	Post-mortem examination of cotton forecasts of 1935-36 season ..	21
20.	Report of the Cotton Forecast Improvement Sub-Committee ..	21
21.	Report of the Special Sub-Committee on Wider Markets for Indian cottons ..	21
22.	Technological Research—Summary of the Progress Report of the Director, Technological Laboratory ..	22
23.	Technological Research—Report of the Technological Research Sub-Committee ..	23
24.	Report of the Research Students Selection Sub-Committee ..	25
25.	Report of the Special Sub-Committee on the Policy to be adopted by the Committee regarding apportionment of the cost of schemes during extension periods ..	25
26.	Progress Report on Madras Nadam Cotton Breeding Scheme ..	26
27.	Final Report on Hyderabad Cotton Survey Scheme ..	26
28.	Progress Report on Punjab Physiological (Cotton Failure Research) Scheme.	26
29.	Final Report on the United Provinces Pink Boll-worm Scheme—Letter from the Director of Agriculture, United Provinces ..	27
30.	Research Schemes—Proposed extensions of—	
	(a) Punjab Pink and Spotted Boll-worm Scheme ..	27
	(b) Broach Cotton Breeding Scheme—Non-acceptance by Baroda Durbar of Committee's proposal for 10 per cent. contribution ..	28
	(c) Sind Physiological Scheme ..	28
31.	Seed Distribution and Extension Scheme—Proposed extension of—Scheme for the extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar—Reference from the last meeting of the Committee ..	28
32.	Proposed New Research Schemes ..	29
	(a) Scheme for cotton <i>jassid</i> investigation in the Punjab.	
	(b) Scheme for the improvement of <i>Mungari</i> cotton in the Madras Presidency.	
33.	Proposed New Seed Distribution and Extension Scheme—Scheme for the extension of "Jarila" cotton-seed in Khandesh ..	30
34.	Report of the Agricultural Research Sub-Committee ..	31
35.	Report of the Standing Finance Sub-Committee ..	31
	(a) Balance Sheet.	
	(b) Financial Statement.	
	(c) Revised Estimates, 1936-37.	
	(d) Budget, 1937-38.	
	(e) Auditors' fees.	
36.	Proposed broadening of the Broach Hedge Contract—Resolution to be moved by Mr. G. C. R. Coleridge ..	32
37.	Restrictions on the import of foreign cotton seed into India—Question of prohibition of imports into maritime States in Kathiawar ..	35
38.	Inheritance of wilt resistance in Indian cottons—Question arising out of the Plant Breeders' Conference held in August 1936 ..	36
39.	Punjab Root Rot Scheme—Proposed extension of the appointment of temporary Agricultural Assistant (Chemical) ..	36
40.	Institute of Plant Industry, Indore—Supplementary grant for 1937-38 ..	36
41.	Proposed allocation of a share of the Cotton Cess funds to Burma on its separation from India ..	37
	Resolutions passed by the Committee ..	38

APPENDICES.

I.	United Provinces Cotton Pest Control Act and Draft Rules there- under—Secretary's note	46
II.	Central Provinces Cotton Market (Amendment) Act, 1936,— Secretary's note	47
III.	Cotton Ginning and Pressing Factories Act—Progress made in Indian States—	48
	(a) Balasinor State.	
	(b) Bansda State—Secretary's note.	
IV.	Cotton Ginning and Pressing Factories Act—	
	(a) Proposed introduction of the system of licensing of ginning and pressing factories in the Punjab—Secretary's note	48
V.	Cotton Ginning and Pressing Factories Act—	
	(b) Draft Rules under Central Provinces Amendment Act, 1936—Secretary's note	49
VI.	Cotton Ginning and Pressing Factories Act—	54
	(c) Draft Rules under Bombay Amendment Act, and Draft Notification—Secretary's note	54
VII.	Half-yearly Report of the Publicity and Propaganda Officer ..	58
VIII.	Summary Proceedings of the Local Sub-Committee—Secretary's note	65
IX.	Reports of enquiries into the village consumption of cotton in—	
	(i) Bihar and	
	(ii) Sind—Secretary's note	69
X.	Report of the Cotton Forecast Improvement Sub-Committee ..	70
XI.	Report of the Special Sub-Committee on Wider Markets for Indian Cottons	72
XII.	Technological Research—Progress Report of the Director, Technological Laboratory	72
XIII.	Technological Research—Report of the Technological Research Sub-Committee	79
XIV.	Report of the Research Students Selection Sub-Committee ..	80
XV.	Report of the Special Sub-Committee on the Policy to be adopted by the Committee regarding the apportionment of the cost of Schemes during extension periods	81
XVI.	Report of the Agricultural Research Sub-Committee ..	82
XVII.	Report of the Standing Finance Sub-Committee ..	88

Present :

- Sir Bryce Burt, Kt., C.I.E., M.B.E., I.A.S. (*President*), Acting Vice-Chairman, Imperial Council of Agricultural Research,
- Sir Purshotamdas Thakurdas, Kt., C.I.E., M.B.E. (*Vice-President*), Representative of the East India Cotton Association, Bombay,
- Dr. W. Burns, D.Sc., I.A.S., Agricultural Expert, Imperial Council of Agricultural Research,
- W. J. Jenkins, Esq., I.A.S., Director of Agriculture, Representative of Department of Agriculture, Bombay Presidency,
- H. R. Stewart, Esq., I.A.S., Director of Agriculture, Representative of Department of Agriculture, Punjab,
- J. C. McDougall, Esq., I.A.S., Director of Agriculture, Representative of Department of Agriculture, Central Provinces,
- S. D. Saklatvala, Esq., M.L.C., Representative of the Bombay Millowners' Association,
- M. S. Durutti, Esq., Representative of the Bombay Chamber of Commerce,
- Chunilal B. Mehta, Esq., Representative of the Indian Merchants' Chamber, Bombay,
- G. C. R. Coleridge, Esq., Representative of the Karachi Chamber of Commerce,
- J. L. Hurschler, Esq., Representative of the Tuticorin Chamber of Commerce,
- W. Roberts, Esq., C.I.E., Representative of the Empire Cotton Growing Corporation,
- Y. G. Deshpande, Esq., Commercial Representative, Central Provinces,
- D. K. Kane, Esq., Commercial Representative, Central Provinces,
- Khan Bahadur Sardar Habibullah, M.L.C., Commercial Representative, Punjab,
- Sir Chunilal V. Mehta, K.C.S.I., Co-operative Banking Representative,
- K. S. Ramaswami Gounder, Esq., Representative of Cotton Growers, Madras.
- M. R. Ry. Rao Bahadur B. P. Sesha Reddi Garu, M.L.C., Representative of Cotton Growers, Madras,
- Sardar Rao Bahadur Bhimbhai Ranchodji Naik, M.L.C., Representative of Cotton Growers, Bombay,
- Rao Bahadur C. S. Shirahatti, Representative of Cotton Growers, Bombay,
- Khan Bahadur Shah Nazar Husain, M.L.C., Representative of Cotton Growers, United Provinces,
- Rai Bahadur Lala Anand Sarup, M.L.C., Representative of Cotton Growers, United Provinces,

Sardar Sahib Gurbachan Singh, M.L.C., Representative of Cotton Growers, Punjab,

Rao Bahadur M. G. Deshpande, C.B.E., Representative of Cotton Growers, Central Provinces and Berar,

M. P. Kolhe, Esq., M.L.C., Representative of Cotton Growers, Central Provinces and Berar,

Nizam-ud-Din Hyder, Esq., Director of Agriculture, Representative of Hyderabad State,

R. G. Allan, Esq., C.I.E., Commissioner of Agriculture, Representative of Baroda State,

T. R. Low, Esq., I.A.S., Director of Institute of Plant Industry, Indore, Representative of Rajputana and Central India States,

D. N. Mahta, Esq., Economic Botanist for Cotton, Central Provinces,

Rao Bahadur S. S. Salimath, Deputy Director of Agriculture, Southern Division, Dharwar,

Dr. V. K. Badami, Ph.D., Deputy Director, Department of Agriculture in Mysore State, Bangalore,

M. R. Ry. V. Ramanatha Ayyar, Avl., Cotton Specialist, Coimbatore,

Musahib-i-Khas Bahadur S. V. Kanungo, Finance Minister, Holkar State, Representative of the Holkar State.

Rai Saheb K. I. Thadani, Director of Agriculture, Sind, Representative of Agricultural Department, Sind,

Seth Isserdas Varindmal, Representative of the Karachi Indian Merchants' Association,

P. B. Richards, Esq., I.A.S., Director of Agriculture, Representative of Agricultural Department, United Provinces,

Khan Saheb Farrukhbeg Sadikalibeg Mirza, Nawabshah, Sind,

Lala Shri Ram, Representative of the Cotton Millowners, Delhi,

Chellaram Shewaram, Esq., Representative of the Karachi Cotton Association, Ltd.,

Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,

The Secretary (Mr. P. H. Rama Reddi, I.A.S.),

The Director, Technological Laboratory (Dr. Nazir Ahmad) and

The Publicity Officer (Mr. R. D. Mihra).

By invitation.

V. C. Steer-Webster, Esq., Technical Adviser, Cutch State,

F. J. D'Eath, Esq., Port Commissioner, Veraval, Junagadh State,

S. A. S. Quraeshi, Esq., Chief Customs Officer, Nawanagar State,

Mazhar Husain, Esq., Director of Statistics, H. E. H. The Nizam's Government, Hyderabad-Deccan,

P. M. Joseph, Esq., Deputy Director of Statistics, Department of Commercial Intelligence and Statistics, Calcutta,

G. K. Lele, Esq., Deputy Director of Agriculture, Malwa Division, Ujjain,

K. V. Joshi, Esq., Deputy Director of Agriculture, North Central Division, Nasik,

R. G. Saraiya, Esq., C/o Messrs. Narandas Rajaram & Co., Bombay,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

J. B. Hutchinson, Esq., Geneticist and Botanist, Institute of Plant Industry, Indore,

Professor R. H. Dastur, Plant Physiologist, Agricultural College, Lyallpur,

Mohammad Afzal, Esq., Cotton Research Botanist, Lyallpur,

K. Ramiah, Esq., Geneticist and Botanist Designate, Institute of Plant Industry, Indore,

G. R. Ambekar, Esq., Provincial Officer in charge, Bombay Cotton Forecast Improvement Scheme.

President's Speech.

Gentlemen,

I have great pleasure in welcoming you to the 34th meeting of the Indian Central Cotton Committee. On your behalf I desire also to extend a most cordial welcome to the representatives of the Kathiawar States of Nawanagar, Cutch and Junagadh who, at our invitation, have come to discuss with us certain questions connected with the regulation of the imports of foreign cotton-seed with the object of excluding foreign insect pests. There has been only one change in our membership since we last met. We miss Mr. Vonesch, who was a very active member of the Committee, but extend a hearty welcome to Mr. Hurschler, his successor as a representative of the Tuticorin Chamber of Commerce.

We have made one new departure on this occasion, in that the formal meetings of the Committee are to be followed by a Cotton Research Workers' Conference where cotton research workers from the various provinces, and from several Indian States, will meet and discuss various scientific and technical problems of mutual interest. Those meetings commence on Thursday and are expected to last for three days. This is a development which we decided on about a year ago and it has arisen from some informal meetings of Cotton Botanists organised by Mr. J. B. Hutchinson, our Geneticist at the Indore Institute of Plant Industry.

This being our budget session we are more occupied with the administrative details of research schemes than with technical programmes and progress reports, most of which are discussed at our monsoon meeting. Nevertheless the Agricultural Research Sub-Committee has

had two busy days and has put a good deal of material before you for consideration. In particular, a joint special meeting of that Sub-Committee with members of the Finance Sub-Committee has considered the question of the policy to be followed in future when research and seed distribution schemes are renewed for further periods. Our funds are limited and while we wish to see all our existing schemes carried through to a successful conclusion we also desire to retain our ability to stimulate and co-ordinate cotton research in India by means of grants to such new investigations as may prove necessary from time to time. We are fully mindful of the necessity of translating our results into agricultural practice and of bringing them down to the village, so that the cultivator may benefit by the application of scientific methods to the solution of his problems. But in seed distribution schemes, we touch very closely on one of the major activities of all Provincial Agricultural Departments and it has required some care to arrive at a fair distribution of financial burden. I will not anticipate the Sub-Committee's recommendations but trust that they will meet with your approval.

Amongst more important subjects of a general nature which are coming up for discussion I may mention the Bombay and Central Provinces Rules under the amended Cotton Ginning and Pressing Factories Act which have been referred to us for opinion. An important reference in regard to the working of Section 14 of the same Act has been received from the East India Cotton Association which will call for most careful consideration. We shall, as usual, receive the report of our Technological Research Sub-Committee which on this occasion contains extremely important and valuable recommendations as to the means to be adopted to improve the *liaison* between the Indian cotton mills and the Committee's Technological Laboratory. The half-yearly progress report of the Director shows that the Technological Laboratory has been used in an increasing measure by the cotton trade and the cotton spinning industry and that, in addition to testing new cottons for Agricultural Departments, it has been of assistance in a variety of ways. Another question of interest is the discussion which will take place on the proposal for the broadening of the Broach Hedge Contract. As usual, we shall receive reports on the progress made with the establishment of regulated cotton markets in Bombay, Madras Presidency and the Central Provinces. We also have before us the proceedings of the Provincial Cotton Committees for Sind and the Punjab and we are glad to hear that the Holkar State has recently decided to set up a Holkar Cotton Committee for the consideration of local problems. As usual we shall consider the report of the Sub-Committee which deals with the improvement of the official cotton forecasts. We have also received an intimation that, on the separation of Burma from India, the Burma Government proposes to continue to levy the cotton cess at the same rate as it is levied in British India and to apply the whole proceeds to research and other measures directed to the improvement of the Burma cotton crop. We are asked to advise the Government of India regarding Burma's claim to a share in our reserve fund.

We are greatly indebted to the Sub-Committees which have been meeting since last Friday to deal with details of our work and, as usual, we owe a special debt of gratitude to our Standing Finance Committee and the Local Sub-Committee. These Sub-Committees have met regularly throughout the year to deal with day-to-day matters of administration and with various other problems in the interim between our meetings.

SUBJECT 2.—Confirmation of Minutes.

The minutes of the previous meeting were confirmed.

SUBJECT 3.—Retirement of Members by Rotation.

The Secretary's note was recorded.

SUBJECT 4.—Appointment of Vice-President and Sub-Committees.

Tributes were paid to the qualities of the head and heart of Sir Purshotamdas Thakurdas who gave his valuable time to the work of the Committee. Sir Purshotamdas was complimented for the possession of an unique quality in that he combined the efficiency of a bureaucrat and the broad outlook of a non-official.

The following resolution was passed unanimously :—

RESOLUTION.—That Sir Purshotamdas Thakurdas be re-elected Vice-President for the coming year and the following Sub-Committees were formed.

STANDING FINANCE SUB-COMMITTEE.

RESOLUTION.—“That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1937-38 :—

The President (ex-officio),

Sir Purshotamdas Thakurdas,

Mr. S. D. Saklatvala,

Mr. J. L. Hurschler,

Mr. Kasturbhai Lalbhai,

Mr. G. C. R. Coleridge,

Mr. M. S. Durutti,

Sir Chunilal V. Mehta, and

Rao Bahadur M. G. Deshpande.”

COTTON GINNING AND PRESSING FACTORIES
SUB-COMMITTEE.

RESOLUTION.—" That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

The Vice-President,
Mr. S. D. Saklatvala,
Mr. M. S. Durutti,
Mr. J. L. Hurschler,
Mr. Kasturbhai Lalbhai,
Mr. G. C. R. Coleridge,
Mr. J. Nuttall,
Mr. W. Roberts,
Mr. J. Tinker,
Mr. Y. G. Deshpande,
The Co-operative Banking Representative (ex-officio),
Mr. Chellaram Shewaram,
Mr. W. J. Jenkins."

LOCAL SUB-COMMITTEE.

RESOLUTION.—" That the following members be appointed to compose the Local Sub-Committee :—

The President,
The Vice-President,
Mr. S. D. Saklatvala,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
Mr. J. L. Hurschler,
Mr. M. S. Durutti,
Mr. Kasturbhai Lalbhai,
Mr. G. C. R. Coleridge,
Sir Chunilal V. Mehta,
Mr. Chandulal P. Parikh,
Rao Bahadur M. G. Deshpande,
Mr. W. J. Jenkins."

AGRICULTURAL RESEARCH SUB-COMMITTEE.

RESOLUTION.—"That the following members be appointed to form the Agricultural Research Sub-Committee :—

- I. The President, (ex-officio),
- II. The Vice-President, (ex-officio),
- III. The Co-operative Banking Representative—Sir Chunilal V. Mehta (ex-officio),
- IV. Cotton Growers' Representatives—Mian Nurullah, Mr. W. Roberts, Rao Bahadur M. G. Deshpande,
- V. Cotton Trade Representatives—Mr. Kasturbhai Lalbhai, Mr. D. K. Kane, Mr. Chandulal P. Parikh,
- VI. Agricultural Officers.

RESOLUTION.—The Agricultural Expert, Imperial Council of Agricultural Research (ex-officio),

The Director, Institute of Plant Industry, Indore, (ex-officio),

Mr. J. H. Ritchie,

Mr. H. R. Stewart,

Mr. V. Ramanatha Ayyar,

Mr. W. J. Jenkins,

Mr. R. G. Allan,

Rai Saheb K. I. Thadani,

Rao Bahadur D. Ananda Rao Garu,

Mr. D. N. Mahta,

Mr. P. B. Richards,

Mr. J. C. McDougall,

Mr. Nizam-ud-Din Hyder,

Mr. G. K. Lele,

Dr. V. K. Badami,

VII. Additional Members :—

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. Chellaram Shewaram,

Mr. Mohammad Afzal,

Rai Saheb Kalidas Sawhney,

Mr. K. Ramiah, and

VIII. The Secretary "

TECHNOLOGICAL RESEARCH SUB-COMMITTEE.

RESOLUTION.—"That the following members form the Technological Research Sub-Committee :—

The President (ex-officio),

The Vice-President,

The Agricultural Expert, Imperial Council of Agricultural Research (ex-officio),

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. S. D. Saklatvala,

Mr. M. S. Durutti,

Mr. W. J. Jenkins,

Mr. H. R. Stewart,

Mr. Chandulal P. Parikh,

Mr. Y. G. Deshpande,

Mr. Kasturbhai Lalbhai,

Rao Bahadur D. Ananda Rao Garu,

Lala Shri Ram,

Mr. J. Tinker,

Mr. J. L. Hurschler,

Dr. Nazir Ahmad.

Additional Members—Two representatives each from :

The Bombay Millowners' Association,

The Ahmedabad Millowners' Association, and

The East India Cotton Association, and

One representative from the Karachi Cotton Association, Ltd."

RESEARCH STUDENTS SELECTION SUB-COMMITTEE.

RESOLUTION.—"That the Research Students Selection Sub-Committee be composed of the following members :—

The President,

The Vice-President,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Dr. W. Burns,

Mr. P. B. Richards,

Mr. H. R. Stewart,

Mr. J. H. Ritchie,

Rao Bahadur D. Ananda Rao Garu,

Mr. W. J. Jenkins,

Mr. T. R. Low,

Mr. J. C. McDougall,
 Rai Saheb K. I. Thadani,
 Mr. G. K. Lele,
 Mr. R. G. Allan,
 Mr. Nizam-ud-Din Hyder,
 Dr. V. K. Badami,
 Mr. Kasturbhai Lalbhai, and
 Dr. Nazir Ahmad ”.

COTTON FORECAST IMPROVEMENT SUB-COMMITTEE.

RESOLUTION.—“ That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President (ex-officio),
 The Agricultural Expert, Imperial Council of Agricultural Research,
 (ex-officio),
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 The Director of Agriculture, Punjab,
 The Director of Agriculture, Madras,
 The Director of Agriculture, United Provinces,
 The Director of Agriculture, Central Provinces,
 The Director of Agriculture, H. E. H. the Nizam's Government,
 The Commissioner of Agriculture, Baroda,
 The Chief Agricultural Officer in Sind,
 The Director of Statistics, H. E. H. the Nizam's Government,
 The Director of Land Records, Central Provinces and Berar,
 The Deputy Director of Statistics,
 The Statistical Officer, Board of Revenue, Madras.
 Mr. J. L. Hurschler ”.

SPECIAL SUB-COMMITTEE ON WIDER MARKET FOR
 INDIAN COTTON.

RESOLUTION.—“ That the Special Sub-Committee to consider the question of a wider market for Indian cotton be composed as follows :—

The President,
 The Vice-President,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Dr. W. Burns,

Mr. W. J. Jenkins,
 Rai Saheb K. I. Thadani,
 Mr. Nizam-ud-Din Hyder,
 Mr. S. D. Saklatvala,
 Mr. J. L. Hurschler,
 Mr. Chandulal P. Parikh,
 Mr. Y. G. Deshpande,
 Mr. Balak Ram,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. J. C. McDougall,
 Mr. W. Roberts,
 Mr. Chellaram Shewaram,
 Mr. Kasturbhai Lalbhai,
 Dr. Nazir Ahmad,
 Mr. R. G. Saraiya—Additional Member ”.

SUBJECT 5.—*Proposed holding of a cold weather meeting of the Committee at Lyallpur.*

RESOLUTION 10.—“That a meeting of the Indian Central Cotton Committee be held at Lyallpur in November 1938 ”.

The President said that cotton plants at Lyallpur were at their best in November. It was, however, not practical to hold a meeting in November 1937, but they would have to wait till November 1938.

The Director of Agriculture, Punjab, concurred with the President.

An opinion opposing the proposal was expressed on the ground that meetings outside Bombay were inconvenient both to the Members and the Staff and that the Members had very little time after the prolonged meetings of the Sub-Committees and the Committee to see cotton in the fields and to visit field experiments.

Another argument advanced in support of the proposal was that the Committee had spent a considerable amount of money on schemes in the Punjab and criticism had been levelled against the expenses incurred on those schemes.

The Lyallpur meeting would afford an opportunity for the Members to see things for themselves and thus meet the criticisms of those who were against the several schemes in the Punjab.

The following Resolution was passed :—

“That a meeting of the Indian Central Cotton Committee be held at Lyallpur in November 1938.”

SUBJECT 6.—*Cotton Transport Act—Surat Area—Baroda Government Notification No. 3 of 10th September 1936.*

The President referring to the decision of the Director of Agriculture, Bombay, that licenses were necessary for importing half-pressed bales from Vyara to Surat although both stations were situated in Surat Protected Area though notified under different Acts, was of opinion that the difficulty was purely a legal one. It was not necessary to amend the Act but merely to request the Bombay Government to make necessary amendments in the notification to remove the legal difficulty.

The suggestion of the President was Approved.

SUBJECT 7.—*Formation of Holkar State Cotton Committee.*

RESOLUTION.—“That the Indian Central Cotton Committee places on record its appreciation of the action of the Holkar Durbar in forming a Cotton Committee and trusts that it will be found to be of much benefit in the solution of local problems. The Indian Central Cotton Committee will be pleased to render any assistance that may be required.”

The Vice-President in moving the resolution expressed satisfaction at the action of the State.

The President suggested that the Secretary should write demi-officially to the Holkar Durbar suggesting that the Director, Institute of Plant Industry, Indore, should be made a Member of the Committee.

This was approved.

SUBJECT 8.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

SUBJECT 9.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

(The above two subjects were discussed together.)

RESOLUTION 13.—“That the proceedings of the Punjab and Sind Provincial Cotton Committees be recorded. The Indian Central Cotton Committee notes with pleasure the keen interest shown by the members of these Committees in the various problems affecting the Cotton industry of the respective Provinces.”

Several questions were put to Rai Sahab Thadani regarding the amount of seed supplied departmentally in Sind and the area covered in the previous year. In reply it was pointed out that a circular was issued giving the amount of seed available, the amount of seed available from registered growers and also other seed available which was reasonably pure and the total acreage available for cultivation.

At the request of the President Rai Sahab Thadani agreed to send copies of the circular to the Secretary so that they could be available to the members of the Committee.

It was pointed out during the discussion that the Sind Government should allow no more delay in putting into operation the Cotton Ginning and Pressing Factories (Amendment) Act in the best interests of the growers of improved cotton in the province.

A suggestion was made that members of the Indian Central Cotton Committee should automatically become members of the respective Cotton Committees of the Provinces to which they belonged. The President pointed out that the Committee had made a general recommendation to local Governments but when membership of the Indian Central Cotton Committee changed this naturally created a gap in the Provincial Committees.

The resolution was carried.

SUBJECT 10.—*United Provinces Cotton Pest Control Act* and Draft Rules thereunder.*

RESOLUTION.—"That the Indian Central Cotton Committee places on record its satisfaction that the **UNITED PROVINCES COTTON PEST CONTROL ACT** has been passed by the United Provinces Legislative Council and trusts that no time will be lost in giving effect to the rules under it. It is confident that this piece of legislation will go a long way towards improving the quality and yield of the cotton in the tracts to which it will be applied and that both the cotton growers and the cotton trade in United Provinces will benefit."

The Vice-President in moving the resolution wished the United Provinces all good luck in the experiments they had decided upon though he could not promise that the Committee would give all the United Provinces Government had asked for. As Chairman of the Finance Sub-Committee he felt it was his duty to place on record that the question of financing the experiment would be settled when more details were available.

The reference to the financial side of the question was necessitated by the observations of a member from United Provinces, during the discussion, to the remarks of the Vice-President at a previous meeting who said that the blessing which the Committee gave to the Bill should not commit it either to a loan or any expenditure. The member was of opinion that the Act would not bear fruit unless financial help was given by the Committee. The point was further pursued by showing that the United Provinces were not getting a fair share of the funds of the Committee. As an instance it was pointed out that under seed Distribution Scheme out of a total expenditure of Rs. 7,66,611 the United Provinces got only Rs. 6,660 and under Agricultural Research the Provinces got Rs. 1,72,000 out of a total of Rs. 42 lakhs.

This resolution was carried.

SUBJECT 11.—*Establishment of regulated cotton markets.*

It was pointed out that two regulated cotton markets were working satisfactorily in Bombay Presidency, one in Dhulia and the other in Amalner and that two more were to be established, one at Jalgaon and the other at Dondaicha. The system of marketing in the Southern Division of the Bombay Presidency was quite different from that obtainable in North-Central Division. In the Southern Division of the Bombay Presidency, Local Board, which consisted mainly of local traders, were against the establishment of regulated markets and it took a long time to induce them to come to terms. It was only when the Government took the initiative, that regulated markets were established at Bailhongal and Bijapur. Two more regulated markets were due to be opened in Gujerat while the question of a regulated market at Gadag was under consideration. The Madras Government wanted to gain experience from their sole regulated market at Tirupur before opening more markets while in the Central Provinces with the Cotton Market (Amendment) Act a good many more regulated markets would be opened than the two already in existence. The Punjab Government were going a step forward that in addition to Cotton markets they wanted to open regulated markets for wheat and other crops.

The Secretary's note was recorded.

SUBJECT 12.—*Central Provinces Cotton Market (Amendment) Act*, 1936.*

RESOLUTION.—"The Indian Central Cotton Committee notes with satisfaction that the Central Provinces Cotton Market Act has been amended and hopes that as a result a large number of regulated cotton markets will be established in the near future."

Now that the Act has been passed into law two more markets in Central Provinces have applied for recognition and it is expected others would follow suit.

The resolution was carried.

SUBJECT 13.—*Cotton Ginning and Pressing Factories Act—Progress made in Indian States.*

(a) Balasinor State.

(b) Bansda State.

The Secretary's note† was recorded.

SUBJECT 14.—*Cotton Ginning and Pressing Factories Act‡.—(a) Proposed introduction of the system of licensing of ginning and pressing factories in the Punjab.*

This much discussed subject was once more brought into prominence by the Officiating Director of Agriculture's Punjab remark in his note that personally he was of opinion that at present the question of mixing was not interfering with the prices which the grower was getting.

*Appendix II (page 47).

†Appendix III (page 48).

‡Appendix IV (page 48).

It was pointed out that the officiating Director of Agriculture had put forward the views of the Committee before the Provincial Cotton Committee and the Standing Committee of Agriculture, Punjab Legislative Council. It was opposed to pursue the matter further but considered it best to await the results of the legislation in Bombay and Central Provinces. The Punjab Government also accepted that view.

The Secretary's note was recorded.

SUBJECT 14 (b) & (c).—*Cotton Ginning and Pressing Factories Act :—*

(b) Draft Rules* under Central Provinces Amendment Act, 1936.

(c) Draft Rules† under Bombay Amendment Act and Draft Notification.

The President said that the three main points for consideration in the Draft Rules were first the difficulty arising from the definition of "watering" in the Central Provinces Act and in the Bombay Rules; secondly the authorities by whom the certificates of moisture content should be granted and the method adopted for these tests and thirdly the action to be taken on the seizure of watered bales in Bombay.

The difficulty, it was averred, consisted in the definition of "watering" both in Central Provinces and Bombay Acts, and whether the watering was deliberate or accidental and unavoidable. The "Explanation" and the Rules made the position still worse as there was no standard and definite way to ascertain the moisture contents of cotton. At the time when the "explanation" was accepted by the Central Provinces Legislative Council if any one was discovered applying the hose to cotton that was sufficient evidence that cotton has been watered. Even in such a case the legal opinion was doubtful whether cotton could be considered watered unless water in excess of the theoretical normal percentage was there. It was suggested that the Technological Laboratory and the East India Cotton Association possessed the necessary apparatus to test the water content and that these bodies should place the apparatus at the disposal of the Central Provinces Government. Regarding the seizure of cotton outside the Central Provinces, it was held that Central Provinces authorities had no jurisdiction outside the Province to pursue the matter. Suggestions were however invited with a view to obviating the difficulty. The President concurred with these observations and suggested that the two Provincial Governments should co-operate and carry out the necessary amendments to make the intentions of the Acts effective. Further, a suggestion was made to the effect that a small Sub-Committee of a few experts and trade members be appointed to examine the whole question and draft rules for the considerations of both the Central Provinces and Bombay Governments. *The Vice-President* pointed out that there was no scope for a Sub-Committee's activity in this matter, since only Solicitors could advise. The President

*Appendix V (page 49).

†Appendix VI (page 54).

remarked that he would consult the East India Cotton Association's Solicitors and if they could not clear up the matter he would consult the Government of India and, if necessary, would see that steps were taken for the amendment of the Acts and inform the two Governments concerned.

Regarding the official moisture tests, the *President* observed that the method adopted by the Technological Laboratory and the East India Cotton Association should be allowed and that a proposal to this effect be made to both the Governments. The *President* enquired of Dr. Nazir Ahmed if the Standard Conditioning Oven could be lent to Central Provinces Government. Dr. Nazir Ahmed was of opinion that as the work at the Testing Section in Sewree was slack, one of the ovens could be lent to the Central Provinces Government till they received their oven from England. The *President* proposed that as the two Governments had taken up the amendment of the Act at the suggestion of the Committee, the Committee should provide the Conditioning oven, the cost of which would be between Rs. 1,500 and Rs. 2,000. This was agreed to.

Regarding the seizure of "Watered" bales of cotton in Bombay, the *President* invited the opinion of the trade members on the point. It was pointed that when a bale was seized in Bombay the man doing so had to rail it back to Central Provinces, report the matter there and get the owner punished. The matter thus presented great difficulties. The *Vice-President* said that the discussion had brought out many difficulties in the operation of the Acts both in Bombay and Central Provinces but a start had to be made and in that light the Acts had to be given a trial.

Regarding "Watered" bale the Vice-President thought that when once a lot of bales was condemned in arbitration in Bombay, they get sufficient notoriety and no one would touch them. This acted as a greater check than seizing the bale, railing it back to Central Provinces and getting the owner fined Rs. 50. This procedure would serve the purpose of the Act for the present.

The *President* observed that except in regard to moisture tests, the Committee could recommend that the rules be given effect to so that experience would be gained as to how they worked in practice.

Regarding the normal proportion of seed in a bale the Central Provinces and Bombay Acts differed in that the percentage allowed in Central Provinces is $\frac{1}{2}$ per cent. while that in Bombay is 1 per cent. The *Vice-President* said that it was not possible that the desirable percentage could be laid down dogmatically. There was no harm in retaining $\frac{1}{2}$ per cent. while 1 per cent. could be allowed as some gins were loosely set. Doubts were expressed by some members whether the percentage referred to the whole bale or to the sample examined. Dr. Nazir Ahmed said that the procedure followed by the Manchester's Test House was to draw according to a certain plan five samples from different parts of the bale. A similar method would meet the requirements of Central Provinces and tests made on these samples would be representative of the whole bale.

The question was raised as to how to prevent admixtures of cotton wastes. It was pointed out in reply that the point does not arise at present since the Bombay Act did not set forth to prevent all mixing. Unauthorized admixtures would be dealt with under the Act.

The Vice-President desired to know when the Act would be put into force by the Bombay Government. The new season would start in November and unless the Legislation was put into force long before that month considerable difficulty would be experienced as thousands of bales which would be watered when the Act was not in operation would be in the market in February. The Central Provinces Government intend to bring the Act into operation shortly and the Bombay Government should not slacken. If the Bombay Government could not bring the Act into operation by November 1937 they would have to wait till November 1938.

In reply it was stated that the actual date of the Act coming into force could not be promised but necessity for an early enforcement of the Act would be brought to the notice of the Bombay Government.

SUBJECT 15.—*Representation of Bombay cotton dealers regarding hardships arising from the application of section 14 of Cotton Ginning and Pressing Factories Act of 1925.*

The *President* drew attention to the letter from Sir Purshotamdas Thakurdas on the subject of difficulties experienced by the trade in the application of section 14 of the Act and the application of the bye-laws of the East India Cotton Association based on that section. He agreed with Sir Purshotamdas that there were degrees in such offences. He personally did not think that it would be feasible to ask the Government to repeal section 14 of the Act, because during the passage of the Act the Government had emphasized the fact that section 14 was the real force of the Act. The Vice-President said that when the Act was passed the trade reconciled to it and decided to give it a trial. After experience the trade had discovered, and this he confirmed from his own personal experience, that there were real difficulties in the smooth working of the Act. The traders were trying to become semi-lawyers and were trying to take advantage of every disfigurement in the marking. After some more discussion the *President* undertook to bring the matter to the notice of the Government of India and to ascertain whether the East India Cotton Association could make bye-laws which would overcome the difficulties indicated by the Vice-President in cases which were due to—

- (1) Minor technical flaws in marking.
- (2) Absence of the press mark in a certain percentage of bales in a lot.
- (3) Absence of press mark in a whole lot of bales.

The President considered the views expressed by the East India Cotton Association in their letter to be reasonable and said he would try to expedite a decision.

The suggestion of the President was approved.

SUBJECT 16.—*Half-yearly Report* of the Publicity and Propaganda Officer.*

The President complimented the Publicity and Propaganda Officer's work in connection with the Committee's Court in the United Provinces Industrial and Agricultural Exhibition at Lucknow from December 1936 to February 1937. The Court was visited by over 4,000 cultivators and rich *zamindars* of the United Provinces and he was sure that they appreciated the nature and the value of the work done by the Indian Central Cotton Committee.

It was suggested that the Publicity Officer should devote some of his time to the Punjab in connection with the large scale clean-up campaign against Spotted Boll-worm. The experience of clean-up campaigns carried by the Publicity Officer in Gujarat would be of immense value to the Punjab. Demand for the services of the Publicity Officer was also made for Central Provinces for putting the Central Provinces Cotton Ginning and Pressing Factories Act into operation.

The President promised to lend the Publicity Officer's services to the Punjab on hearing further details. Mr. Mehra's work in connection with Baroda Exhibition and Propaganda work in Gujarat by means of posters and leaflets also came in for compliments from the Committee.

The resolution approving the report of the Publicity and Propaganda Officer was carried.

SUBJECT 17.—*Summary† of Proceedings of the Local Sub-Committee.*

Considerable pressure was being brought to bear for the issue of licences for the import of half-pressed bales from Vankal to Surat on the Director of Agriculture, Bombay, who in answer to the President said that road transport was at first prohibited but subsequently the prohibition was removed. The Vice-President was of opinion that the Local Sub-Committee's decision that licences should not be granted should be adhered to.

With regard to the installation of *kapas* openers in ginning factories in Madras it was pointed out that the question has been postponed by the Madras Government, pending investigation regarding the possibility of requiring *kapas* openers in the new as well as the old factories by amending the Act.

The Summary of Proceedings was recorded.

* Appendix VII (page 58).

† Appendix VIII (page 65).

SUBJECT 18.—*Reports* of Enquiries into the Village Consumption of Cotton in :—*

- (1) *Bihar*
and
- (2) *Sind.*

SUBJECT 19.—*Post-mortem examination of cotton forecasts of 1935-36 season.*

SUBJECT 20.—*Report † of the Cotton Forecast Improvement Sub-Committee.*

(The above three subjects were discussed together.)

The President announced that the investigations undertaken to obtain more accurate estimates for village consumption of cotton in India for which small grants were made to various provinces were nearly complete. He suggested that the fifth paragraph of page 1 of the Report of the Sub-Committee be altered to read as follows :—

“ The Sub-Committee desires the all-India estimate of village consumption of cotton in India based on the above enquiries and the consolidated report to be ready for consideration at its next meeting.”

This was agreed to.

Another suggestion from the President was the deletion in line 4 of page 2 of the report of the words “ after approval by the Sub-Committee at its next meeting ” and the substitution thereof by the following :—

“ If possible before the issue of the next All-India Forecast in April 1937 ”.

This was agreed to.

The President moved :—

RESOLUTION.—“ That the Report of the Cotton Forecast Improvement Sub-Committee, as amended, be adopted.”

This was seconded by Rao Bahadur (now Sir) M. G. Deshpande and carried.

SUBJECT 21.—*Report ‡ of the Special Sub-Committee on Wider Markets for Indian Cotton.*

Some disappointment was expressed with the report as it contained no reference as to what should be done to encourage the use of Indian Cotton in France, Germany, Italy, Belgium and other foreign countries. It was suggested that the Sub-Committee should take some more interest in the work and move faster as the solution of the problem was of vital interest to India. It was pointed out that the President's discussion

* Appendix IX (page 69).

† Appendix X (page 70).

‡ Appendix XI (page 72).

with the Lancashire Indian Cotton Committee did not advance matters very much. The decision of the Committee to obtain statistics of the consumption of cotton in other countries was recalled in this connection and urged that the appointment of a statistician by the Committee in the Office of the Director General of Commercial Intelligence and Statistics, which was under the consideration of the Government of India, should be hastened. The statistician would collect information as regards the uses to which cotton was being put in other countries.

Further emphasis was laid on sending a representative of the Committee to foreign countries to get in touch with different Trade Commissioners and ask them to exert their influence in spreading the knowledge of the use of Indian Cotton.

Referring to the Trade Commissioners in Germany and Italy the Vice-President was of opinion that they had fully justified their appointments.

The President then moved :—

RESOLUTION.—“That the Report of the Special Sub-Committee on wider markets be adopted.”

The resolution was carried.

SUBJECT 22.—*Technological Research—Progress Report * of the Director, Technological Laboratory.*

The Director of Technological Laboratory said that the Progress Report which covered a period of five months showed an increase of 16 per cent. in the receipt of samples, both trade and yarn, from the mills and firms, compared with the corresponding period of the previous year. The work done by the Laboratory had correspondingly increased inasmuch as against 190 samples in the previous year, this year the samples tested had increased to 207. An interesting test was carried out on the suggestion of the Director of Agriculture, Bombay, on cotton produced in certain villages to ascertain whether it came up to the prescribed standard or not. The findings were submitted to the Agricultural Department. The Laboratory also carried out investigations regarding the effect of twists on the strength and appearance of yarns, combining into different degrees, tests on mixture of Indian cottons and staple fibre and the different system of drafts. A piece of interesting research work, the first of its kind, viz. the effect of twists on the strength and extension of cotton fibre, was carried out in the Laboratory. This will be soon sent to England for publication. The investigation regarding the effect of climatic condition of lints had yielded interesting results. The two research students were carrying out work of considerable importance, one being on the absorption of dyes and the other on the effect of Kier Boil treatment on the elasticity of yarns spun.

* Appendix XII (page 72).

The Director was asked to carry out investigations regarding the comparative tests between roller and saw-ginning on the new types of long staple cotton as complaints of neppiness in saw-ginned cotton were common. Such tests it was suggested would be helpful both to the trader and the ginner.

The Director observed that the Laboratory had only a small saw-gin and if a comprehensive investigation was to be undertaken a bigger saw-gin was required for which he would put proposals before the Standing Finance Sub-Committee. He had, however, a certain amount of information already available on the subject. This showed that the most important factors in saw-ginning were (1) the rate of feed, (2) the amount of moisture present and (3) the speed of the saws. If any of these experiments were done to find out the optimum conditions for obtaining the best results these could only be carried out in the Laboratory where the problem could be studied in its different aspects and not by sending Assistants to factories which were not under the supervision of the Laboratory as suggested by some members.

The President suggested that the purchase of a saw-gin should be included in the budget of the Technological Laboratory.

This was agreed to.

The President in moving the approval of the Progress Report of the Director of Technological Laboratory congratulated the Director on the good work done. He expressed gratification both of the trade and the industry which had benefited from the Laboratory.

This resolution was carried unanimously.

SUBJECT 23.—*Technological Research—Report* of the Technological Research Sub-Committee.*

Mr. Saklatvala said that at the last meeting he was asked to place concrete suggestions before the Committee with a view to increasing the utility of the Committee's Technological Laboratory and thus bringing about a closer contact between the mills and the Laboratory. The Sub-Committee appointed by the Bombay Millowners' Association to go into the matter had forwarded suggestions to the Technological Research Sub-Committee. These suggestions with slight modifications had been accepted by the Technological Research Sub-Committee. The suggestion for the appointment of a *laison* officer was put off for the present. As regards the establishment of a Testing House on the lines of the Manchester Chamber of Commerce he was of opinion that the Committee's Laboratory would serve as a nucleus for the present and he was confident that merchants and manufacturers engaged in the trade would be prepared to accept without question a certificate issued by the Laboratory. It would necessitate a certain amount of increase both in the equipment and the staff of the Laboratory and it was for the Committee to decide the extent of additional cost it

* Appendix XIII (page 79).

was prepared to bear. It was fair that those who deserved benefit from the Testing House should substantially contribute towards the additional expenditure of equipment as the recurring charges. He was of opinion that in the first instance tests should be undertaken only on raw cotton, i.e. ordinary commercial lint and not on cotton yarn, cloth and chemical and dye tests. The last two tests could well be carried on by the University Department of Chemical Technology, provided, they were agreeable, under the supervision of the Director of the Committee's Laboratory. If the proposals were acceptable he would place them before the Bombay Millowners' Association who in consultation with the trade would formulate a scheme.

The President pointed out that it was important to bear in mind that a testing house was different from a research Laboratory and wanted to know to what extent the Manchester Testing House was self-supporting in regard to testing work.

In reply it was observed that the Manchester Testing House was more than self-supporting and the fees charged by them were willingly paid by those who wanted the tests to be carried out.

The Director of Technological Laboratory was also of opinion that the Testing house would be self-supporting in course of time though in the initial stage it might incur some loss.

The President suggested that a small Committee of the Bombay Millowners' Association and Mr. Saklatvala should work out a scheme on the best lines possible.

A member complained that the Indian Stores Department were not prepared to help the industry in carrying out tests on lubricating oils. It seemed that Government wanted facilities to be reserved for themselves.

It was pointed out that the method of ginning, especially 289F required further study. As the problem was too big for the Technological Laboratory alone, it was desirable that the Directors of Agriculture, Punjab and Sind, should work out a scheme in co-operation with the Laboratory. Apart from some study made by Messrs. Volkart Bros. there has been no progress made in ginning for the last 40 years. He felt there was scope for improvement and all improvements effected should be made public and not kept as trade secrets. The delinting machine which the Committee had put up at Khaneval was not working satisfactorily.

There was scope for trying out different types of delinters. The artificial silk industry ought to have been flourishing in India but the cellulose available was wasted.

Another suggestion was that simultaneous investigations should be carried out in *Kapas* and cotton openers.

The question was raised whether roller ginning was sufficiently effective for removing the small specks of dirt in Sind and Punjab cottons especially 289F as these specks affected the price and usefulness of those cottons.

In reply it was stated that tests made did not show that the roller gin as at present prepared was capable of removing the specks. The saw-gin gave somewhat cleaner cotton but unless due regard was paid to density of the feed roll, the speed and condition of the saws and humidity of the lint, it might damage the fibre. As regards the openers if those factories which have installed them were willing to co-operate with the Technological Laboratory and furnish details as to the types of openers they possessed, the Laboratory could arrange to send them sample which could be opened and ginned in the different types of machines and then return to the Laboratory for studying the results.

The President suggested that Messrs. Roberts and Stewart should put up a definite scheme at an early date which the Secretary could send round before the date of the next meeting of the Committee.

This was agreed to:

The President moved :—

RESOLUTION.—“That the Report of the Technological Research Sub-Committee, as amended, be adopted.”

The resolution was carried unanimously.

SUBJECT 24.—*Report* of the Research Students Selection Sub-Committee.*

RESOLUTION.—“That the Report of the Research Students Selection Sub-Committee be adopted.”

The resolution was carried unanimously.

SUBJECT 25.—*Report† of the Special Sub-Committee on the policy to be adopted by the Committee regarding the cost of schemes during extension periods.*

The President said that it was the intention that when a cotton breeding scheme financed by the Committee was in operation no other responsibility was accepted by the Committee for any other seed provided by the Government.

It was agreed that the Committee should meet the cost of the maintenance of a nucleus of seed from all varieties of cotton, the spread of which had been approved by it.

*Appendix XIV (page 80)

†Appendix XV (page 81)

An amendment was proposed to the fifth line of the paragraph under conclusions to read as follows :—

“Seed schemes should be sanctioned for periods not exceeding five years in the first instance and may be extended subsequently for a further period of five years on the condition that (a) the Committee's share of the expenditure in the second period should be to the extent of 75 per cent. either on the pay of the staff or incidental expenditure and (b) that the Local Government concerned contribute not less than the sum spent during the original period of the Scheme.” The amendment was approved.

The following addition to the report was also proposed and agreed to :—

The Sub-Committee agreed that in seed distribution schemes when a change in the variety under distribution was made and approved by the Indian Central Cotton Committee further continuance of the scheme should be treated as a new seed distribution scheme and not as a renewal of the original scheme.”

The Report of the Special Sub-Committee, as amended, was approved.

SUBJECT 26.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

It was declared that the object of the scheme was to replace the perennial cotton of the Nadam tract by suitable annual type. The Sub-Committee was of opinion that the prospects justified the continuance of the scheme for full five years.

The Report of the Agricultural Sub-Committee was approved.

SUBJECT 27.—*Final Report on Hyderabad Cotton Survey Scheme.*

This report was an effort to give in detail an account of the great mass of cottons which were grown in Hyderabad State. The Director of Agriculture, Hyderabad State, thanked the Committee for having afforded the State facilities for carrying out of the scheme and for the Committee's decision to publish the first part of the Report from the Committee funds.

The Report of the Agricultural Research Sub-Committee was approved.

SUBJECT 28.—*Progress Report on the Punjab Physiological (Cotton Failure Research) Scheme.*

The disease which caused partial failure of the crop in certain years was one which baffled workers for a long time and was a source of great loss to the Punjab. In a bad year the boll opened prematurely and there was practically no lint and the seeds were also empty.

The Sub-Committee, which consisted of Dr. Burns, Mr. Hutchinson, Professor Dastur, Dr. Patel, a bacteriologist, had thoroughly examined the problem and its report was divided under three main headings. The first dealt with bacteria which Professor Dastur discovered in cotton plants, the second was the micro-chemical work during which certain strange symptoms occurred resulting in the breaking down of the green matter in the leaves and certain deposits in the root discovered by Professor Dastur and third the proposal to deal with the soils.

The Sub-Committee recommended that the opinion of Dr. Mason, the Cotton Physiologist at the Tripidad Experimental Station, should be obtained. In this connection it was pointed out that the problem was not only important to the Punjab but would be of value to other provinces and therefore Professor Dastur should not be debarred from carrying on further researches. Further researches into bacteriology, soil components and mineral constituents were necessary.

The President said that he agreed that bacteriological work should be entrusted to a bacteriologist and pointed out that the door on soil work was not closed.

After some more discussion the suggestion that a grant of Rs. 1,500 for apparatus should be made was approved.

The report of the Agricultural Sub-Committee, as amended, was adopted.

SUBJECT 29.—*Final Report on the United Provinces Pink Boll-worm Scheme—Letter from the Director of Agriculture, United Provinces.*

Mr. Richards acting as the Director of Agriculture, United Provinces, not finding time to prepare the final report on the Scheme it was agreed to entertain proposal at the next meeting for clerical assistance to *Mr. Richards*.

SUBJECT 30 (a).—*Research Schemes—Proposed Extensions of Punjab Pink and Spotted Boll-worm Scheme.*

The proposal of the Agricultural Research Sub-Committee for the extension of this scheme now running for some years and its extension by another year for writing up the report with the assistance of a clerk to the Assistant Entomologist was considered. With regard to the proposals for the Clean-up Campaigns the number of plant-pullers was increased from 2,000 to 4,000, but the idea of giving prizes was dropped. The sentence in the report of the Agricultural Research Sub-Committee that the number of plant-pullers should be 4,000 instead of 2,000 was amended to the effect that for the first year the number of plant-pullers should be 4,000 instead of 2,000 with the provision of Rs. 2,000 in the second year, and approved.

Another amendment to the second paragraph substituting "should be spent" by "might be utilized" was agreed to.

In answer to a question as to why no investigation was made on Spotted Boll-worm simultaneously with the Pink Boll-worm Scheme which had been sanctioned in 1926 and continued up to 1937, the President pointed out that no new research scheme was proposed but only a clean-up campaign for applying the results of the research.

The report of the Agricultural Research Sub-Committee, as amended, was approved.

SUBJECT 30 (b).—*Proposed extension of Broach Cotton Breeding Scheme—Non-acceptance by Baroda Darbar of Committee's proposal for 10 per cent. contribution.*

Failing to secure contribution from the Baroda Durbar for reasons explained in the Secretary's note, the scheme was approved, the contributions being supplied by the Committee. In view of this the opinion was expressed that the programme should be restricted and limited to the capacity of the present staff.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 30 (c).—*Proposed extension of Sind Physiological Scheme.*

This scheme which had been originally prepared for five years was extended for three months only. According to one of the conditions laid down in the scheme, the work was to be continued even after the closure of the scheme, necessitating the maintenance of the records regarding the meteorological observations and other matters, for which the assistance of the Committee was sought. What was required was the retention of the apparatus and other materials since most of the apparatus under the scheme would be required. The President suggested that a concrete and official proposal of the loan of the apparatus required should be put up for the consideration of the Committee stating how they were to be used.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 31.—*Seed Distribution and Extension Scheme—Proposed extension of—Scheme for the extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar—Reference from the last meeting of the Committee.*

The budget estimate for the remaining two years of the sanctioned period of the scheme were debited to the Committee with the whole change for the pay and allowances of certain staff who were on duty, for part of the year only in connection with the marketing of Verum cotton. The Agricultural Research Sub-Committee, however, took the view at its last meeting that this should not be the case but only the pay of the substitutes should be borne by the Committee. Accordingly a revised budget was discussed and accepted by the Standing Finance Sub-Committee and subsequently by the Agricultural Research

Sub-Committee. These revised estimates required the formal approval of the full Committee. The budget estimates were accordingly approved and the report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 32 (a).—*Scheme for cotton jassid investigation in the Punjab.*

This scheme was originally considered in 1934 when it was referred back by the Agricultural Research Sub-Committee asking for an assistant for making regular observations on the jassid resistance or susceptibility of the new strains of cotton produced by the Cotton Research Botanist. The Sub-Committee accordingly recommended that the Cotton Research Botanist should be given one Entomological Assistant and one fieldman and the work should be carried out in co-operation with the Government Entomologist, Punjab. As regards the cost and the programme, the Punjab Government made certain recommendations, and the Sub-Committee desiring similar investigations in Sind where the problem was similar, suggested that the Chief Agricultural Officer in Sind should be asked to put up necessary proposal for consideration at the next meeting of the Committee and that the Entomologist in Sind should keep in touch with the work to be done in the Punjab. The scheme justified the expenditure required. An amendment to the report was brought in the Sub-Committee asking for information under 3 (a) of the programme of work as to oviposition, feeding or embryonic development. This was approved and the report of the Agricultural Research Sub-Committee was also approved as amended.

SUBJECT 32 (b).—*Scheme for the improvement of Mungari cotton in the Madras Presidency.*

The necessity for substituting the inferior cotton (Mungari) by something nearer to the second good class cotton, so as to protect good class cotton against admixture with inferior type, since the Cotton Transport Act did not help in securing the redress, was explained. The scheme was examined by a Sub-Committee which suggested only certain alterations in the budget. Comparison of some 20 existing strains were to be tried out and the Cotton Specialist was to study the progenies of single plants from the current year's selections without crossing them with some of the strains, so as to find out their deficiencies and performance. It was found desirable to have one cotton Botanist for both Madras Presidency and Hyderabad and to omit the assistant on Rs. 75 and also a fieldman out of the three proposed which required altogether Rs. 3,816. Taking into consideration the new arrangements, the total requirements of the staff came to Rs. 18,015, and the grand total to Rs. 23,534. At this figure the Sub-Committee considered the research work conducting as the only way of trying to get rid of inferior cotton. It was further pointed out that this figure was considerably lower than the original budget which was Rs. 48,406. The contribution of the Local Government amounting to Rs. 12,214 remains unaltered in both cases.

The report of the Special Sub-Committee was adopted as amended and the scheme was sanctioned.

SUBJECT 33.—*Proposed New Seed Distribution and Extension Scheme—Scheme for the extension of “Jarila” cotton seed in Khandesh.*

Although Jarila cotton was a good yielder, with good ginning percentage and was wilt resistant and fetched a good value (its staple being .92 inches) and its spinning performance was 32 standard warp counts, it was considered that the launching of a big scheme at the present moment was premature. It was recorded by the Sub-Committee that the scheme should be financed for ten months so that the scheme could start when the Banilla Scheme closed down. The Committee had originally agreed to finance the scheme wholly provided the Bombay Government undertook to bear a part of the expenditure for the remaining term, but the Government of Bombay could not be induced to make any promise with regard to 1938-39 as it would not know what the situation would then be. It was, therefore, proposed that the conditional part of the report of the Agricultural Research Sub-Committee be omitted and substituted by a provision that the Committee would make future grants according to the policy of apportionment between the Committee and the Local Governments which policy had been laid down and approved at this meeting. In view of the constitutional difficulties pointed above the President endorsed the proposal of the full Agricultural Research Sub-Committee that the Indian Central Cotton Committee should meet the whole cost of the scheme on contingencies and establishment for the first ten months and for only one of these items for the second year. The proposal was approved.

Arising out of the discussion on the subject it was stated that Indian mills took only about 12 lakhs of bales of long staple cotton out of 18 lakhs of bales available in the market. From this it was concluded that there was over supply of long staple varieties, owing to which the prices had already fallen and even for 289 F, which sold 3 years ago at Rs. 90 on was now selling at about Rs. 50 on. Such state of affairs, it was averred, was not conducive to proceeding further with researches on long staple cotton and increasing their production as the Committee was endeavouring to do. For example, in Sind the yield of long staple cotton per acre was less than the short staple which reduced the income of growers to the same level. Short staple varieties required less time to grow than the long ones. For these reasons it was agreed that further increase in the production of long staples would only lower the prices.

While the importance of this issue was recognized, it was agreed that the Committee could not be expected to arrive at a hurried decision. If a change of policy was desired this important question must be brought before the next meetings of the Agricultural Research Sub-Committee and the full Committee. What was wanted was a type of cotton which would be marketed with the greater ease and meet the

requirements of the Indian consumer and exporter. In the present case the strain which was discovered was a very promising one and it would be unfair to the Khandesh tract to turn the scheme down in anticipation of a change of policy, at the next meeting of the Committee. The President was of opinion that the policy of the Committee must begin with research and the results of the research should not be suppressed once a scheme had been brought to a successful conclusion. But this did not prejudice the submission of a memorandum requesting the reversal of the present policy by the Committee.

SUBJECT 34.—Report of the Agricultural Research Sub-Committee.*

The Agricultural Research Sub-Committee divided itself into four sectional Sub-Committees which considered the various subjects and which in turn were again considered by the Agricultural Research Sub-Committee and finally by the full Committee.

General.

Reports of Research Students were considered to be satisfactory and their programmes of work approved.

A modification of the programme of work of the Bikaner Bengals Cotton Improvement Scheme was also approved.

A proposal of the Chief Agricultural Officer in Sind to depute an Agricultural Officer to study abroad cultivation, ginning and marketing of American and other long staple cottons was not approved owing to the want of definite information about the qualifications of the person to be deputed, nature of work intended and why he was required to do it.

The supply of cyclostyled copies of Progress Reports on Research and Seed Distribution Schemes to all workers was approved.

The appointment of a technological assistant at Parbhani was considered necessary and sanctioned.

The following resolution was seconded by the Vice-President and carried.

RESOLUTION.—“That the Report of the Agricultural Research Sub-Committee as amended, be adopted.”

SUBJECT 35.—Report† of the Standing Finance Sub-Committee.

- (a) Balance Sheet.
- (b) Financial Statement.
- (c) Revised Estimates, 1936-37.
- (d) Budget, 1937-38.
- (e) Auditors' Fees.

*Appendix XVI (page 82).

†Appendix XVII (page 88).

With reference to a question regarding the revised estimates under the Madras Herbaceum Scheme it was explained that the originally sanctioned budget of Rs. 9,386 for a period of three months rose to Rs. 20,214 owing to the scheme having been extended.

With regard to a similar question about the provision under I-A, Administration, it was pointed out that Rs. 1,23,280 sanctioned in the budget for 1936-37 came down to Rs. 1,05,810 in the revised estimates owing to the provision of travelling allowance for non-official members being shown separately and not included in the administration budget as in the past.

The President moved—

RESOLUTION.—“That the Report of the Standing Finance Sub-Committee be adopted.”

“That the Revised Estimates for 1936-37 be approved.”

“That the Budget for 1937-38 as amended at this Meeting of the Indian Central Cotton Committee be sanctioned.”

“That Messrs. S. B. Billimoria & Co., be reappointed Auditors for the year 1937-38 on a remuneration of Rs. 750.”

This was seconded by Mr. Roberts and carried.

SUBJECT 36.—*Proposed broadening of the Broach Hedge Contract.*
Resolution to be moved by Mr. G. C. R. Coleridge.

RESOLUTION.—“The Indian Central Cotton Committee urges the East India Cotton Association Ltd., to take steps to broaden the Broach Hedge Contract in such a way as to make it a safer hedge for all good quality cotton and thereby prevent Cotton-growers being subjected to unavoidable losses by manipulation in the Bombay market.”

Mr. Coleridge in moving the resolution said that it was only after a very careful consideration that he had decided to propose the resolution. He hesitated first because he realised that he was introducing a controversial trade problem and secondly because he felt that the resolution might be interpreted as an attack or a slight on East India Cotton Association. However he was bold enough to say that his resolution if passed would be welcomed by the East India Cotton Association and he would be acquitted of any ulterior motive when his reasons for sponsoring were made clear. Apart from the fact that he had always felt that not only was Broach Hedge Contract too narrow but that Oomra Contract was also narrow, the corners or attempted corners during the last fifteen years had done nobody any good. In majority of cases the manipulators had burnt their fingers badly. His attention during such raids had been focussed on the local situation only and he had not troubled himself with consequences to the grower. He had always been told that hedge contracts were primarily meant to help the grower to hedge his production when harvested or before harvest at times when no ready outlet for sale was available.

By quoting illuminating figures and facts the speaker showed that hedge contracts instead of protecting the interests of the growers has helped the cornerers and manipulators on the Bombay market.

The argument that broadening of contract would result in lowering of cotton values is so plausible that it is easy to be deaf to arguments to the contrary. Cotton values were decided in the long run by one thing only, namely, the law of supply and demand.

The mover then cited the case of America where practically all growths were tenderable against a contract, the only exception being inferior qualities below a certain standard. No one could maintain that the prices of American cotton had been lowered because the bulk of the crop was tenderable against the Hedge Contract. In America, the Hedge Contract was not looked upon as a means of disposing of cotton but was used for the purpose for which it was intended, namely, to hedge cotton. In India in his opinion the contract was used much too much as a means of unloading stock. If the contract was made broader a much broader ready market would be obtained and ready cotton would be saleable much more easily than it was at present. The widening would prevent the manipulation and squeezes, for what the grower wanted was a steady market with a hedge contract at his disposal to protect him from a drop in the market, at a time when he wanted a ready market and outlet for his cotton.

He therefore urged the immediate revision of the Hedge Contracts and broadening them which would prevent cornering and manipulation. As a first step towards this revision he suggested that the Indian Central Cotton Committee as the guardian of the growers' interests should now pass a resolution favouring widening of contract and then appoint a Sub-Committee constituted of an equal number of growers, spinners and actual cotton merchants and brokers.

The resolution of Mr. Coleridge received much support from different quarters as for example, speakers on behalf of the Department of Agriculture, Bombay, the Bombay Millowners' Association, Karachi Merchants, Cotton growers of Punjab and Madras who related their experiences in varying terms lending support.

The Vice-President speaking on the resolution made it clear that whatever views he expressed were in his capacity as Vice-President of the Indian Central Cotton Committee and not as President of the East India Cotton Association. He made this reservation as he had no mandate from the East India Cotton Association nor had he discussed it with them. He, however, felt that he should not keep back from the Committee his views on the subject gained as a result of his connection for the last fifteen years. The resolution aimed at broadening the Broach Hedge Contract in such a way as to make it safer hedge for "all" staple cotton. He emphasised the word "all" because that was the ideal that Mr. Coleridge sought after. He would at once point out that such a contract was not feasible anywhere in the world. Mr. Coleridge had complained of Broach and Oomra Contracts being narrow and the growers being hard hit by squeezes, but he had failed to suggest

legislation to prevent squeezes. He (speaker) agreed that squeezes should be prevented but he went further and maintained that if squeeze was bad, depression leading to demoralisation had more disastrous effect. The complaint was that the cultivator was not sufficiently protected and when anything unforeseen took place he usually lost. The point was how often did this happen. The grower was now wide awake and wanted to know in advance what the American future rates were before he consigned his cotton and thus he minimised his risk of loss. The Vice-President interpreted Mr. Coleridge's motive as a desire to still further reduce the grower's risk. If it was decided that every kind of cotton grown in India should be tenderable against a hedge contract then such a contract could not be devised. Between the short and long staple cottons of India the difference in price ranged from Rs. 100 to Rs. 150 a candy and it was not clear how the grower could get a better price for his cotton if better hedge facilities were provided. The present parity between the American and Indian cotton was greater than it had been during the last five or six years, but if contracts had been broader the parity would have been still greater. The trade had complained that the higher level of American prices was due to better marketing facilities and better holding power of the people in America. It was a fact that if, with narrow hedging contract in Bombay, American cotton was selling considerably higher than Indian cotton the position in India would be much worse if the hedge contract had been widened.

In devising Hedge Contracts three things had to be borne in mind :

- (1) The staying power of the cultivator when his crop is ready.
- (2) The finance available to him to market his crop.
- (3) The financing power of the trade and the middleman up-country and of the trade in Bombay.

It was a well known fact that in markets of this nature there must be interests which were out for business and which bought cotton at the cheapest price possible. The resources of the shippers were ample but what was wanted in India was to help the middleman. It was a mistake to draw comparisons between American and Indian conditions. The Indian cultivator upcountry was not capable of withstanding depressions whereas the whole American nation stood by its cotton growers in their worst times.

As regards the suggestions for the formation of a Sub-Committee the Vice-President said that everybody had given his best consideration to the subject but so far no unanimity was reached nor was any unanimity likely. A broadening of the Broach Hedge Contract of the East India Cotton Association would be of no value as people hedged cotton both under the East India Cotton Association and that of the Mahajan Association against which only Broach cotton was tenderable. The first step necessary before contract could be widened was to establish unitary control in the Bombay market and no hedging should be permitted except under one contract. The Mahajan Association transacted business worth lakhs in narrow Broach Contract in which only cotton

grown from Ankleshwar to Itola, that is a crop of about $2\frac{1}{2}$ lakhs bales could be tendered, the East India Cotton Association was expected to broaden the Contract so that it should include ten lakh bales. He, therefore, felt that the East India Cotton Association was justified in the reply given by it to the Director of Agriculture, Bombay, that it had put off consideration of the question until it knew what the Government of Bombay proposed to do in the matter of establishing unitary control. It was not practical to allow one association to trade in narrow contract and press another to widen its own on the ground that the interest of the cultivator and trade were being neglected. Unitary control should be established over all Associations, otherwise the Committee would only be encouraging piracy by one trade association on another which was more responsible.

Mr. Coleridge in reply observed that he had no intention of suggesting that Indian market should be run on exactly the same lines as the American whilst he realised the necessity of unitary control of cotton, he thought that broadening of the hedge contract was the easier course and more necessary. As the Vice-President had emphasized the words "all good quality Indian stapled cotton" he was prepared to alter these words to "more good quality Indian stapled cotton".

The president put the following amended resolution to the vote, which was carried.

RESOLUTION.—"The Indian Central Cotton Committee urges the East India Cotton Association Ltd., to take steps to broaden the Broach Hedge Contract in such a way as to make it safer hedge for more good quality Indian Staple cotton, and thereby prevent cotton-growers in being subjected to unavoidable losses by manipulations in the Bombay Market."

The Vice-President requested that it should be recorded that while he did not oppose the resolution as amended he did not vote for it being a representative of the East India Cotton Association.

SUBJECT 37.—*Restriction on Import of foreign cotton seed into India. Question of Prohibition of imports into maritime States of Kathiawar.*

The President's suggestion for the appointment of a Sub-Committee to discuss the subject with representatives of Kathiawar was agreed to. The Sub-Committee should consist of three representatives of Nawanagar, Cutch and Junagadh States, Mr. Allan, Dr. Burns, Mr. P. B. Richards, the Vice-President and the President.

The President after the meeting of the Sub-Committee appointed in this connection said that valuable discussion had taken place with the representatives of three Kathiawar States of Nawanagar, Cutch and Junagadh with a Sub-Committee of the Indian Central Cotton Committee including the Agricultural Commissioner, Baroda. The draft minutes should be sent to the representatives present and the Government of India.

The President's suggestion was carried.

SUBJECT 38.—*Inheritance of wilt resistance in Indian Cottons—Question arising out of the Plant Breeders' Conference held in August 1936.*

This subject was carried over for a discussion at the conference of Scientific workers.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 39.—*Punjab Root Rot Scheme—Proposed extension of the appointment of temporary Agricultural Assistant (Chemical).*

The report of the Agricultural Research Sub-Committee regarding this matter was adopted.

SUBJECT 40.—*Institute of Plant Industry, Indore—Supplementary grant for 1937-38.*

RESOLUTION.—"That a supplementary grant of Rs. 26,000 to the Institute of Plant Industry be approved."

In moving the resolution the Vice-President said that the majority of the members of the Committee on the governing body of the Institute were present when the budget of the Institute was passed and they were in complete accord with the other members of the governing body representing Indian States and the President—the Honourable the Agent to the Governor General. The members of the Committee desired to make the institute either to make it self-supporting or to prove its worth and all the representatives of the Indian States present there expressed their willingness to render all the assistance needed. The Governing body wanted to have a further report on the working of the Chemistry section of the institute and appointed two experts for the purpose. In this connection Mr. Hutchinson's going back to Trinidad was considered a heavy loss to India but it was hoped that he could be of help to India even from there, especially after the knowledge which he gathered during his research work in India.

The following resolution was moved and carried unanimously, speaker after speaker having showered encomiums upon Mr. Hutchinson for his research in Indian Cottons.

RESOLUTION.—"The Indian Central Cotton Committee learn with regret that Mr. J. B. Hutchinson is retiring shortly from India owing to personal reasons. The Committee record their cordial thanks to Mr. Hutchinson for the excellent work done by him during the period of 3½ years as Geneticist and Botanist at the Institute of Plant Industry, Indore. The Committee found Mr. Hutchinson's assistance most valuable at meetings of the Indian Central Cotton Committee and on its various Sub-Committees on which Mr. Hutchinson gave his best so enthusiastically."

2. The Indian Central Cotton Committee wish Mr. Hutchinson continued success in his career hereafter and look forward to greater publicity to Indian cotton and its closer touch with world cottons as a result of Mr. Hutchinson's intimate knowledge of Indian cotton during his period of office at Indore."

SUBJECT 41.—*Proposed allocation of a share of the Cotton Cess funds to Burma on its separation from India.*

RESOLUTION.—"That the Indian Central Committee makes a grant to the Government of Burma for Cotton Research of 1·52 per cent. of the audited balance of the Committee on 31st March 1937."

The President said that on question of principle he did not think that there was any doubt that Burma was entitled to an allocation of a share of the cotton cess. There were two possible bases to determine the amount, one being the size of the crop and the other being the actual percentage of the cess paid by Burma since Cotton Cess came into operation. The estimate of crop being of uncertain accuracy the latter basis was the better one. The cess collected from Burma was estimated at Rs. 1,72,000 on the 31st March, against about Rs. 113 lakhs from the whole of India (including Burma). This gave a percentage of 1·52.

The resolution was carried unanimously.

With a vote of thanks by the President of the Committee to the members for the way in which they helped him in the despatch of the business and a hearty vote of thanks to the Chair for so ably and efficiently conducting the deliberations which was carried with acclamation the meeting concluded.

R. D. MIHRA,
Publicity and Propaganda Officer.

RESOLUTIONS PASSED BY THE COMMITTEE.

Appointment of Vice-President.

Nos.

1. "That Sir Purshotamdas Thakurdas be re-elected Vice-President for the coming year."

Standing Finance Sub-Committee.

2. "That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1937-38 :—

The President (*ex-officio*),
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. J. L. Hurschler,
 Mr. G. C. R. Coleridge,
 Mr. Kasturbhai Lalbhai,
 Mr. M. S. Durutti,
 Sir Chunilal V. Mehta, and
 Rao Bahadur M. G. Deshpande."

Cotton Ginning and Pressing Factories Sub-Committee.

3. "That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

The Vice-President,
 Mr. S. D. Saklatvala,
 Mr. M. S. Durutti,
 Mr. J. L. Hurschler,
 Mr. Kasturbhai Lalbhai,
 Mr. G. C. R. Coleridge,
 Mr. J. Nuttall,
 Mr. W. Roberts,
 Mr. J. Tinker,
 Mr. Y. G. Deshpande,
 The Co-operative Banking Representative—Sir Chunilal V. Mehta (*ex-officio*),
 Mr. Chellaram Shewaram,
 Mr. W. J. Jenkins."

Local Sub-Committee.

4. "That the following members be appointed to compose the Local Sub-Committee :—

The President,
 The Vice-President,
 Mr. S. D. Saklatvala,

Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. J. L. Hirschler,
 Mr. M. S. Durutti,
 Mr. Kasturbhai Lalbhai,
 Mr. G. C. R. Coleridge,
 Sir Chunilal V. Mehta,
 Mr. Chandulal P. Parikh,
 Rao Bahadur M. G. Deshpande,
 Mr. W. J. Jenkins."

Agricultural Research Sub-Committee.

5. " That the following members be appointed to form the Agricultural Research Sub-Committee :—

- I. The President (*ex-officio*),
- II. The Vice-President (*ex-officio*),
- III. The Co-operative Banking Representative—Sir Chunilal V. Mehta (*ex-officio*),
- IV. Cotton Growers' Representatives—Mian Nurullah, Mr. W. Roberts, Rao Bahadur M. G. Deshpande.
- V. Cotton Trade Representatives—Mr. Kasturbhai Lalbhai, Mr. D. K. Kane, Mr. Chandulal P. Parikh.

VI. Agricultural officers :—

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

The Director, Institute of Plant Industry, Indore (*ex-officio*),

Mr. J. H. Ritchie,
 Mr. H. R. Stewart,
 Mr. V. Ramanatha Ayyar,
 Mr. W. J. Jenkins,
 Mr. R. G. Allan,
 Rai Saheb K. I. Thadani,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. D. N. Mahta,
 Mr. P. B. Richards,
 Mr. J. C. McDougall,
 Mr. Nizam-ud-Din Hyder,
 Mr. G. K. Lele,
 Dr. V. K. Badami.

VII. Additional Members :—

Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. Chellaram Shewaram,
 Mr. Mohammad Afzal,
 Rai Saheb Kalidas Sawhney,
 Mr. K. Ramiah, and

VIII. The Secretary.”

Technological Research Sub-Committee.

6. “That the following members be appointed to form the Technological Research Sub-Committee :—

The President (*ex-officio*),
 The Vice-President,
 The Agricultural Expert, Imperial Council. of
 Agricultural Research (*ex-officio*).
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. S. D. Saklatvala,
 Mr. M. S. Durutti,
 Mr. W. J. Jenkins,
 Mr. H. R. Stewart,
 Mr. Chandulal P. Parikh,
 Mr. Y. G. Deshpande,
 Mr. Kasturbhai Lalbhai,
 Rao Bahadur D. Ananda Rao Garu,
 Lala Shri Ram,
 Mr. J. Tinker,
 Mr. J. L. Hurschler,
 Dr. Nazir Ahmad.

Additional Members—

Two representatives each from :—

The Bombay Millowners' Association,
 The Ahmedabad Millowners' Association,
 The East India Cotton Association, and

One representative from the Karachi Cotton Association, Ltd.”

Research Students Selection Sub-Committee.

7. “That the Research Students Selection Sub-Committee be composed of the following members :—

The President,
 The Vice-President,
 Dewan Bahadur Sir T. Vijayaraghavacharya,

Dr. W. Burns,
 Mr. P. B. Richards,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. W. J. Jenkins,
 Mr. T. R. Low,
 Mr. J. C. McDougall,
 Rai Saheb K. I. Thadani,
 Mr. G. K. Lele,
 Mr. R. G. Allan,
 Mr. Nizam-ud-Din Hyder,
 Dr. V. K. Badami,
 Mr. Kasturbhai Lalbhai, and
 Dr. Nazir Ahmad."

Cotton Forecast Improvement Sub-Committee.

3. "That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President, (*ex-officio*),
 The Agricultural Expert, Imperial Council of Agricultural Research, (*ex-officio*),
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 The Director of Agriculture, Punjab,
 The Director of Agriculture, Madras,
 The Director of Agriculture, United Provinces,
 The Director of Agriculture, Central Provinces,
 The Director of Agriculture, H. E. H. the Nizam's Government,
 The Commissioner of Agriculture, Baroda,
 The Chief Agricultural Officer in Sind,
 The Director of Statistics, H. E. H. the Nizam's Government,
 The Director of Land Records, Central Provinces and Berar,
 The Deputy Director of Statistics,
 The Statistical Officer, Board of Revenue, Madras,
 Mr. J. L. Hirschler."

Special Sub-Committee on Wider Market for Indian Cotton.

9. "That the Special Sub-Committee on Wider Market for Indian Cotton be composed as follows :—

The President,
 The Vice-President,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. H. R. Stewart,
 Mr. J. H. Ritchie,
 Dr. W. Burns,
 Mr. W. J. Jenkins,
 Rai Saheb K. I. Thadani,
 Mr. Nizam-ud-Din Hyder,
 Mr. S. D. Saklatvala,
 Mr. J. L. Hurschler,
 Mr. Chandulal P. Parikh,
 Mr. Y. G. Deshpande,
 Mr. Balak Ram,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Rao Bahadur D. Ananda Rao Garu,
 Mr. J. C. McDougall,
 Mr. W. Roberts,
 Mr. Chellaram Shewaram,
 Mr. Kasturbhai Lalbhai,
 Dr. Nazir Ahmad,
 Mr. R. G. Saraiya—Additional Member."

Holding of a cold weather meeting of the Committee at Lyallpur.

10. "That a meeting of the Indian Central Cotton Committee be held at Lyallpur in November 1938."

Broadening of the Broach Hedge Contract.

11. "The Indian Central Cotton Committee urges the East India Cotton Association, Ltd., to take steps to broaden the Broach Hedge Contract in such a way as to make it a safer hedge for more good quality Indian stapled cotton, and thereby prevent cotton growers being subjected to unavoidable losses by manipulations in the Bombay Market."

Holkar State Cotton Committee.

12. "That the Indian Central Cotton Committee places on record its appreciation of the action of the Holkar Durbar in forming a Cotton Committee and trusts that it will be found to be of much benefit in the solution of local problems. The Indian Central Cotton Committee will be pleased to render any assistance that may be required."

Proceedings of the Sind and the Punjab Provincial Cotton Committees.

13. "That the proceedings of the Punjab and Sind Provincial Cotton Committees be recorded. The Indian Central Cotton Committee notes with pleasure the keen interest shown by the members of these Committees in the various problems affecting the cotton industry of the respective provinces."

United Provinces Cotton Pest Control Act.

14. "That the Indian Central Cotton Committee places on record its satisfaction that the United Provinces Cotton Pest Control Act has been passed by the United Provinces Legislative Council and trusts that no time will be lost in giving effect to the rules under it. It is confident that this piece of legislation will go a long way towards improving the quality and yield of cotton in the tracts to which it will be applied and that both the cotton growers and the cotton trade in the United Provinces will benefit."

Central Provinces Cotton Market (Amendment) Act, 1936.

15. "The Indian Central Cotton Committee notes with satisfaction that the Central Provinces Cotton Market Act has been amended and hopes that as a result a large number of regulated cotton markets will be established in the near future."

Half-yearly Report of the Publicity and Propaganda Officer.

16. "That the Report of the Publicity and Propaganda Officer be approved."

Progress Report of the Director, Technological Laboratory.

17. "That the Progress Report of the Director, Technological Laboratory, be approved."

Report of the Technological Research Sub-Committee.

18. "That the Report of the Technological Research Sub-Committee, as amended, be adopted."

Report of the Special Sub-Committee on Wider Markets.

19. "That the Report of the Special Sub-Committee on Wider Markets be adopted."

Allocation of a share of the Cotton Cess Funds to Burma on its separation from India.

20. "That the Indian Central Cotton Committee makes a grant to the Government of Burma for cotton research of 1·52 per cent. of the audited balance of the Committee on 31st March 1937."

Report of the Research Students Selection Sub-Committee.

21. "That the Report of the Research Students Selection Sub-Committee be adopted."

Supplementary grant to the Institute of Plant Industry, Indore.

22. "That a supplementary grant of Rs. 26,000 to the Institute of Plant Industry be approved."

Retirement of Mr. J. B. Hutchinson and appreciation of his work.

23. "The Indian Central Cotton Committee learn with regret that Mr. J. B. Hutchinson is retiring shortly from India owing to personal reasons. The Committee record their cordial thanks to Mr. Hutchinson for the excellent work done by him during the period of 3½ years as Geneticist and Botanist at the Institute of Plant Industry, Indore. The Committee found Mr. Hutchinson's assistance most valuable at meetings of the Indian Central Cotton Committee and on its various Sub-Committees on which Mr. Hutchinson gave his best so enthusiastically.
24. The Indian Central Cotton Committee wish Mr. Hutchinson continued success in his career hereafter and look forward to greater publicity to Indian cotton and its closer touch with world cottons as a result of Mr. Hutchinson's intimate knowledge of Indian cotton during his period of office at Indore."

Report of the Agricultural Research Sub-Committee.

24. "That the Report of the Agricultural Research Sub-Committee, as amended, be adopted."

Report of the Standing Finance Sub-Committee.

25. "That the Report of the Standing Finance Sub-Committee be adopted."

"That the Revised Estimates for 1936-37 be approved."

"That the Budget for 1937-38 as amended at this meeting of the Indian Central Cotton Committee be sanctioned."

"That Messrs. S. B. Billimoria & Co. be re-appointed Auditors for the year 1937-38 on a remuneration of Rs. 750."

Report of the Cotton Forecast Improvement Sub-Committee.

26. "That the Report of the Cotton Forecast Improvement Sub-Committee, as amended, be adopted."

APPENDIX I.

SUBJECT 10.—*United Provinces Cotton Pest Control Act and Draft Rules thereunder.*

Secretary's Note.

This Committee at its meeting in August last considered the United Provinces Cotton Pest Control Bill and passed the following resolution :—

“The Indian Central Cotton Committee welcomes the action of the United Provinces Government in submitting the United Provinces Cotton Pest Control Act of 1936 to the United Provinces Legislative Council, and records its approval of the Bill.”

“The Indian Central Cotton Committee records its opinion that the proposed legislation is in the interests of the cotton growers and the cotton trade of the United Provinces and that effect should be given thereto as early as possible.”

2. The changes between the Act* as passed (copy attached) and the Bill considered by the Committee are given below :—

SECTION 1.—*The words “United Provinces” have been added before the words “Cotton Pest Control Act”.*

SECTION 2.—*Sub-section (c)—Sub-clause (c) of clause 2 in the bill read as follows :—*

“Raw cotton means the unginned bolls of the cotton plant.”

In the Act the word “locks” has been substituted for the word “bolls” and at the end the words “commonly known as kapas” have been added.

SECTION 7.—*Clauses 7 and 8 of the Bill have been combined into one in this Section.*

SECTION 8.—*This section of the Act reads as follows :—*

“The Local Government may, if it is satisfied, on receipt of a representation from ginners, or otherwise, that the application of the provisions of this Act has adversely affected the interests of ginners within a controlled area, pass an order prohibiting, during such periods as may be specified therein, the export of raw cotton from that controlled area, except in accordance with the terms of a license issued under this Act and may at any time cancel such order.

The words underlined were not in the Bill and have been added in the Act.

SECTION 11.—*The amount of fine for a first or second offence according to the Act is “not exceeding one hundred rupees”; in the Bill it was “not exceeding two hundred rupees”.*

SECTION 13.—*Sub-section (3) (b)—In the corresponding sub-clause of the Bill there were at the end the words “and the fees, if any, which may be charged for them” which have been omitted in the Act. This means that no fees are leviable for the grant of licenses.*

SECTION 13 (4).—*The corresponding sub-clause in the Bill read—*

“All rules made under this Section shall be subject to the condition of previous publication”.

In the Act it is laid down that the draft rules shall be laid before the Legislative Council and shall not be finally made until the Legislative Council has had an opportunity of expressing an opinion on them.

3. The attached draft rules*, which it is proposed to frame under Section 13 of the Act have been forwarded to the Committee for an expression of its views. These draft rules were considered by the Local Sub-Committee at its meeting on the 8th January 1937 and it had no remarks to offer thereon. The rules deal with the following matters.

Rule 1 deals with the fixing of dates for the ginning of cotton, the authorities who will fix the dates and the manner of publication of the dates.

Rule 2 deals with the fixing of dates for the treatment of cotton seed and the authorities who will fix the dates and the manner of publication of the dates.

Rule 3 deals with the method and manner of treatment of seed.

Sub-rule (1) mentions a period of three days to be notified for the village concerned for the purpose of treatment of seed by exposure to the heat of the sun.

Sub-rule (2) describes the method of mechanical treatment of cotton seed.

Sub-rule (3) describes the test for finding out whether the seed is free from infestation by a pest.

Rule 4 deals with the notification of the controlled area, the area to be first notified and the issue of such notification.

Rules 5 and 6 deal with the question of issue of licenses for the import and export of raw cotton or seed.

Rule 7 mentions the records which shall be maintained at any place where cotton seed is treated by mechanical process.

Rules 8 and 9 mention the inspectors appointed under Section 10 of the Act, the areas under their jurisdiction and the powers to be exercised by them.

APPENDIX II.

SUBJECT 12.—*Central Provinces Cotton Market (Amendment) Act, 1936.*

Secretary's Note.

In the course of the discussion on the subject "Establishment of regulated cotton markets", at the meeting of the Committee in August last, it was mentioned that a bill was introduced in the Central Provinces Legislative Council and passed into law, which empowered the Local Government to establish regulated cotton markets even without the consent of the local bodies concerned. It was also mentioned that another bill was being placed before the Berar Legislative Committee for the repeal of the Berar Cotton and Grain Markets Law and for the application of the Central Provinces Cotton Market Act to Berar.

2. A copy of the first mentioned bill, which has passed into Law, is attached for information. Sub-section (1) of Section 4 of the original Act of 1932 which has now been amended, required the Local Government to consult the local bodies concerned before notifying any place as a cotton market under the Act. The sub-section as now amended authorises the Local Government to declare any place as a cotton market established under the Act even without consulting the local bodies concerned. This amendment was thought necessary because the municipalities under which markets had to work were moving very slowly for fear of losing their power if markets were established under the Act.

3. The second bill for the repeal of the Berar Cotton and Grain Markets Law was withdrawn by the mover at the meeting of the Berar Legislative Committee. The Local Government, however, have under consideration the question of extending the Central Provinces Cotton Market Act to Berar.

This is for information.

Central Provinces Bill No. 35 of 1935.

THE CENTRAL PROVINCES COTTON MARKET (AMENDMENT) BILL, 1935.

A Bill to amend the Central Provinces Cotton Market Act, 1932.

WHEREAS it is expedient to amend the Central Provinces Cotton Market Act, 1932, Act IX of in the manner hereinafter appearing ;

It is hereby enacted as follows—

1. This Act may be called the Central Provinces Cotton Market (Amendment) Act, 1935 .

Short title.

2. For sub-section (1) of section 4 of the Central Provinces Cotton Market Act, 1932, the following sub-section shall be substituted, namely :—
Amendment of section 4 (1), C. P. Act IX of 1932.

"(1) The Local Government may, after consulting, if necessary, the local authorities in the areas affected, in such manner as it thinks fit, or upon a representation made by them or by growers of cotton within such areas, by notification, declare that any place is a cotton market established under this Act".

STATEMENT OF OBJECTS AND REASONS.

Experience has shown that since the Central Provinces Cotton Market Act, 1932, was passed by this Council, not more than one market has been established under the Act in this province. It is thought that this is due to the necessity, under the Act, of the Local Government being required to consult the local authorities which in their turn are, in many cases, showing their unwillingness to establish the markets under the Act and also due to much time being lost in consulting them. In order to remove this difficulty and to make it easier to establish more markets under the Act, as early as possible, this amendment to the Act is sought.

APPENDIX III.

SUBJECT 13.—*Cotton Ginning and Pressing Factories Act—Progress made in Indian States.*

- (a) Balasinor State.
- (b) Bansda State.

Secretary's Note.

Since the meeting of the Committee held in August 1936, the following further information has been received regarding the progress made in Indian States in the introduction of legislation on the lines of the Indian Cotton Ginning and Pressing Factories Act and Rules.

Balasinor.—The Durbar framed a set of Cotton Ginning and Pressing Factories Rules which came into force from 1st November 1936. As some of the Rules were incomplete in certain respects necessary action has been taken to get them amended.

Bansda.—The provisions of the British India Act No. XII of 1925 have been made applicable to the State.

The present position is that 69 States have enacted legislation on the lines of the British India Act and from sixty States weekly press returns are being received.

APPENDIX IV.

SUBJECT 14.—*Cotton Ginning and Pressing Factories Act.*

- (a) *Proposed introduction of the system of licensing of ginning and pressing factories in the Punjab.*

Secretary's Note.

The Committee at its meeting in August last considered a note on the "introduction of the system of licensing gins and presses in the Punjab" forwarded by the Director of Agriculture, Punjab, and decided that before expressing its final opinion the proposal to permit mixing, provided the proportion of the mixture was clearly stated on the bale, should be first considered by the Local Sub-Committee. It was also decided that when this subject was taken up for consideration some members from the Punjab and Sind, who were interested in the subject should, be co-opted on the Sub-Committee so that the matter could be fully gone into.

2. In October last, the Director of Agriculture, Punjab, intimated that the Punjab Government had decided, in view of the great complexity of the problem, to defer action regarding the introduction of a Bill to check the mixing of *Desi* with American cotton, until the results of legislation undertaken in Bombay and the Central Provinces were known. This decision of the Punjab Government was considered by the Punjab Provincial Cotton Committee and, as will be seen from the attached extract from its proceedings, further consideration of the question has been postponed till its next meeting and in the meantime the following information is being collected by the Agricultural Department.

- (i) the extent of pure ginning, i.e., as to what quantity is ginned pure, how much pure cotton is sold by factories in the Punjab, etc., and
- (ii) the comparison of prices of pure ginned cotton with cotton in areas where there is some sort of legislation.

Extract from Proceedings of the meeting of the Punjab Provincial Cotton Committee held on 11th November 1936.

"RE: ITEM No. 6.—*To explain the case against the introduction of legislation at present to prevent the mixing of Punjab-American and Desi cottons.*

The Director of Agriculture said that the Punjab Government was requested to consider the introduction of a bill which would:—

- 1. require the licensing of all cotton ginning and pressing factories,

2. prohibit certain malpractices, such as watering and adulterating pressed cotton with cotton seed and other foreign substances,
3. permit the mixing of cotton, provided that all bales of mixed cotton are marked prominently with particulars of the mixture and that the ginning and pressing factory owner or lessee provides a certificate showing the exact mixture in each consignment,
4. enable Government to entirely prohibit by notification in the *Punjab Gazette* the mixing of cottons in any area in which Government may consider it necessary or desirable by the Standing Committee.

The case was discussed by the Standing Committee of the Legislative Council on Agriculture which met in August 1936. The Punjab Government has decided that in view of the great complexity of the problem, it would like to defer action regarding the introduction of the bill until the results of legislation undertaken in Bombay and Central Provinces were known.

Rai Bahadur Sewak Ram said that it would be better to wait for another two years and see the working of the Acts in Bombay and Central Provinces.

The Director of Agriculture said that personally he was of opinion that at present the question of mixing was not interfering with the prices which the grower was getting.

Sardar Ujjal Singh observed that the grower was getting better prices.

The Director of Agriculture enquired whether it was in the interest of growers to have a legislation as proposed or just wait and see the results of the Acts introduced in Bombay and Central Provinces.

Mr. Roberts suggested that further enquiries should be made from the Central Provinces and Bombay Governments as to results of the Acts.

It was decided that the Deputy Directors of Agriculture should collect information in their Circles as regards the extent of pure ginning, i.e., as to what quantity is ginned pure; how much pure cotton is sold by factories, etc. The Department should also collect information as to how the prices of these pure ginned cottons compare with cottons in areas where there is some sort of legislation.

Further consideration of this item was postponed till the next meeting; meantime the information as above should be collected."

APPENDIX V.

SUBJECT 14.—Cotton Ginning and Pressing Factories Act.

(b) Draft Rules under Central Provinces Amendment Act, 1936.

Secretary's Note.

The Committee at its meeting in August last considered the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936, and passed the following resolution :—

"The Indian Central Cotton Committee places on record its satisfaction that the Governments of Bombay and the Central Provinces have passed legislation for the control of cotton ginning and pressing factories. The Committee has no doubt that this measure will go a far way in suppressing the malpractices which are detrimental to the interests of the cotton grower as they mar the fair name of Indian cotton both in India and abroad and it now desires strongly to impress upon the Governments concerned the desirability of bringing the Act into operation at the earliest possible date in those tracts where its application is indicated. The Committee further hopes that it will be given an opportunity of commenting on the rules to be framed by local Governments before they receive legislative sanction."

The attached draft amendments to the Central Provinces Cotton Ginning and Pressing Factories Rules, which have been provisionally approved by the Local Government have now been forwarded for the opinion of the Committee.

When the Central Provinces Amendment Bill was considered by the Local Sub-Committee at its meeting held on the 23rd October 1935 one of the recommendations made was as follows :—

"In the event of Central Provinces cotton being complained of in Bombay as containing foreign matter or excessive moisture or more cotton seed than the prescribed

quantity, complaint should be made to the Secretary, Indian Central Cotton Committee, in order that he might act by taking possession of the cotton or by recording press marks and/or tracing the ownership of the cotton concerned thus enabling the Central Provinces Government to take action against the culprit under the Act. Provision should be made to this effect in the rules under the Act."

As will be seen from paragraph 2 of the attached letter from the Central Provinces Government, that as the Central Provinces Amendment Act will operate in that province only and as the Central Provinces Government cannot seize bales in Bombay it will be necessary for the Bombay party to lodge a complaint in the Central Provinces and to produce the bale there for examination if a faulty bale of cotton is discovered in Bombay. The recommendation of the Local Sub-Committee is not therefore being given effect to. Rule 6F which deals with the procedure for making a complaint does not contain provision for making a complaint in Bombay to the Secretary, Indian Central Cotton Committee, to enable him to take action.

As regards paragraph 3 of the Local Government's letter it may be stated that in December last a complaint was received from a Bombay firm of exporters that in a particular pressing factory at Khandwa red leaf and black leaf cottons were being pressed in the same bale in the proportion of 2 to 1 with fraudulent intentions, the mode of packing being to put $\frac{1}{3}$ red leaf cotton at the bottom, $\frac{1}{3}$ black leaf cotton in the middle and again $\frac{1}{3}$ red leaf cotton at the top of the bale. This complaint was reported to the Central Provinces Government whose reply in paragraph 3 of their letter is to the effect that black leaf cotton is cotton the leaves of which are damaged by rain, and rot and get mixed with the cotton and that the mixture of red leaf with black leaf cotton cannot therefore be regarded as admixture within the meaning of section 2 of the Act, as amended, as it is not a mixture of two varieties of cotton.

The Local Government further state that they do not propose at present to prohibit admixture under section 3A (1) of the amended Act, and that the matter will be considered when the improved varieties of cotton for specific areas in the province have been established. In this connection the recommendation made by the Local Sub-Committee at its meeting held on 23rd October 1935 is given below for information :—

"In particular the Sub-Committee strongly advises that the clause dealing with mixing should be a separate one as in the Bombay Bill and that this sub-section should be brought into operation in specified areas where Verum cotton (or other improved varieties) is cultivated on a really substantial scale."

The draft amendments to the Central Provinces Cotton Ginning and Pressing Factories Rules requiring comment are dealt with below :—

"In rules 6D and 6E the Agricultural Chemist to Government is mentioned as the competent authority for giving a certificate as to the quantity of moisture in cotton complained of and for examining cotton or the contents of a bale or package and for granting a certificate for the purposes of section 3B i.e., for determining whether the provisions of section 3A have been contravened by the presence of water, seed or foreign substance in the cotton complained of. When this point was considered by the Local Sub-Committee in connection with the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Bill, it was decided that the Central Provinces Government should be informed that the Indian Central Cotton Committee had no organisation for arbitration on quality or admixture in cotton and that it would be better if the authority were prescribed by rule and not specified in the Central Provinces Act.

Rule 6F—The fee payable for examination of the contents of a package or bale is Rupees one hundred. This appears to be somewhat high but apparently is necessary to avoid frivolous complaints. The procedure for making a complaint is also laid down. There is no provision for making a complaint to the Secretary, Indian Central Cotton Committee, in the event of Central Provinces cotton being complained of in Bombay. As recommended by the Local Sub-Committee which considered the Central Provinces Amendment Bill. The Committee's recommendation has not been given effect to."

Under sub-rule (5) of rule 6F the Tahsildar or the Naib Tahsildar is authorised to seize a quantity of the cotton itself. In this connection it may be mentioned that the Local Sub-Committee had recommended that the inspecting authority should not be below the rank of a Sub-Divisional Officer, if a revenue officer is prescribed or of an extra Assistant Director of Agriculture, if an agricultural officer.

Draft Amendments to the Central Provinces Cotton Ginning and Pressing Factories Rules, 1925.

Under section 22 of the General Clauses Act, 1897 (Act X of 1897) the following amendments to the Central Provinces Cotton Ginning and Pressing Factories Rules, 1925, proposed to be made in exercise of the powers conferred by section 13 of the Cotton Ginning and Pressing Factories Act, 1925 (XII of 1925), as amended are published as required by sub-section 2 of section 13 of the said Act for the information of all persons likely to be affected thereby and notice is hereby given that the said amendments will be taken into consideration by the Governor in Council after three months from the date of the publication of this notice.

Any objections or suggestions which may be received from any person with respect to the said amendments before the said date will be considered by the Governor in Council.

In exercise of the powers conferred by section 13 of the Cotton Ginning and Pressing Factories Act, 1925 (XII of 1925), as amended, the Governor in Council is pleased to make the following amendments to the Central Provinces Cotton Ginning and Pressing Factories Rules, 1925 :—

Draft Amendments.

- (1) After rule 6 the following rule shall be inserted, namely :—

Period constituting a season.

Section 13 (ab).

“6-A. For the purposes of sections 2 (i) and 5 the season shall commence on the 1st day of September in each year and terminate on the 30th day of June of the year following.

AUTHORITY, THE FORM, THE CONDITIONS AND THE FEE FOR GRANTING A LICENSE.

Section 13 (ac).

“6-B. (1) The authority for granting a license under sub-section (1) of section 2-A shall be the Director of Industries, C. P.

- (2) The license shall be in Form F.

(3) An application for the issue of a license shall be in writing and shall be sent to the licensing authority by registered post so as to reach him not less than fifteen days before the date on which the applicant wishes to commence working his factory.

(4) The fee for a license shall be ten rupees per annum. It shall be credited into a Government treasury and a chalan in token of its payment shall accompany the application.

(5) In the event of a license being lost, a duplicate shall be issued by the Director of Industries, Central Provinces, on payment of a fee of one rupee.

THE PERMISSIBLE PROPORTION OF SEED IN GINNED COTTON.

Section 13 (ae).

“6-C. The proportion of seed, both ginned and unginned, shall not exceed $\frac{1}{4}$ per cent. of the weight of the cotton.

CERTIFICATE REGARDING QUANTITY OF MOISTURE, ETC.

Section 13 (af).

“6-D. The person authorised to give the certificate referred to in the explanation below section 3-A shall be the Agricultural Chemist to Government, Central Provinces.

THE EXAMINATION OF BALES.

Section 13 (ag).

"6-E. The person competent to examine cotton or the contents of a package or bale and to grant a certificate for the purposes of section 3-B shall be the Agricultural Chemist to Government, Central Provinces.

THE PROCEDURE FOR THE EXAMINATION OF BALES AND THE FEE FOR SUCH EXAMINATION.

Section 13 (ah).

6-F. (1) Every complaint of the contravention of the provisions of section 3-A shall be addressed in writing to the Chief Inspector of Boilers and Factories, shall state the grounds for complaint and shall specify the factory and the cotton, package or bale or bales in respect of which such contravention is alleged to have taken place.

(2) The fee payable by the complainant shall be one hundred rupees.

(3) Every such complaint shall be accompanied by a chalan showing that the prescribed fee has been credited into a Government treasury.

(4) If the complainant is not in possession of the cotton, package or bale in respect of which the contravention of the provisions of section 3-A is alleged to have taken place the complaint shall be sent by registered post to the Chief Inspector of Boilers and Factories. On receipt of a complaint under rule 6-F (1) the Chief Inspector of Boilers and Factories shall make or cause to be made such investigation as he considers to be necessary, and if he is satisfied that there are *prima facie* grounds for proceeding with the complaint shall arrange to have the subject matter of the alleged offence seized and sealed in the manner prescribed in rule 6-G, and shall forward it, together with a copy of the complaint and other relevant particulars to the person authorised to examine the cotton, package or bale.

(5) If the complainant is, however, in possession of the cotton, package or bale in respect of which the contravention of the provisions of section 3-A is alleged to have taken place, the complaint shall be presented together with the cotton, package or bale to the Tahsildar or Naib-Tahsildar at the nearest tahsil. The officer to whom the complaint has thus been presented shall make a summary enquiry and forward the complaint together with his report to the Chief Inspector of Boilers and Factories. He shall, at the same time seize a quantity of the cotton itself or the cotton in the package or bale and dispose of the seized things in the manner prescribed in rule 6-G.

SEALING OF THINGS SEIZED.

Section 13 (ai).

6-G. (1) The authorised officer shall enclose the things seized in the special bag provided for the purpose and seal the bag with the special lead seals provided for the purpose in the presence of the owner or the person in charge of the factory or where these are not present in the presence of two witnesses.

(2) Where the offence that appears to have been committed is the watering of cotton, the cotton or a representative sample of it seized shall be divided into two halves and each half shall be placed in the special bag provided for the purpose by the Chief Inspector of Boilers and Factories. The bags will be so filled that when full and with the special seal attached, but not fastened, they will weigh each exactly 5 lbs. avoirdupois on the special balances provided for the purpose by the Chief Inspector of Boilers and Factories. The seals shall be fastened after the weighing.

(3) The bags so sealed shall be labelled with a detachable label with the name of the factory, and such particulars and distinguishing marks as may be necessary for their identification and shall be forwarded to the Chief Inspector of Boilers and Factories, who shall forward the sealed bag, or if the alleged offence is the watering of the cotton one of the sealed bags, the other bag being retained by him, for examination to the Agricultural Chemist to Government, till the final disposal of the case.

2. Form B prescribed in rule 4 shall be amended as in the accompanying revised Form B:—

FORM B.

Press Register.

Name of factory _____ Name of owner _____ Name of lessee (if any) _____
 _____ Press Mark _____.

Date.	Serial Nos. of bales.	Name of person for whom pressed.	(In these columns may be entered the weights of the bales, average weights, etc., to facilitate the preparation of the returns under Section 5.)		
Yr. Month. Day.					
1	2	3	4	5	6

Date.	Particulars of cotton ginning factory where bale was ginned as supplied by person in column 3.				Signature of owner or person in charge.
	Name of factory.	Name of owner.	Name of lessee, if any.	Place where situated.	
Yr. Month. Day.					
1	7	8	9	10	11

3. Rule 16 shall be cancelled and rule 17 renumbered as rule 16.

FORM F.

License—Section 2-A of the Act.

Name of the factory and locality _____ District _____.

Serial No.	Purpose for which license is granted.	Authority entitled to grant license.	Period for which license is valid.	Fee paid.

APPENDIX VI.

SUBJECT 14.—*Cotton Ginning and Pressing Factories Act.*(c) *Draft Rules under Bombay Amendment Act, and Draft Notification.*

Secretary's Note.

The Committee at its meeting in August last considered the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, and passed the following resolution :—

"The Indian Central Cotton Committee places on records its satisfaction that the Governments of Bombay and the Central Provinces have passed legislation for the control of cotton ginning and pressing factories. The Committee has no doubt that this measure will go a far way in suppressing the malpractices which are detrimental to the interests of the cotton grower as they mar the fair name of Indian cotton both in India and abroad and it now desires strongly to impress upon the Governments concerned the desirability of bringing the Act into operation at the earliest possible date in those tracts where its application is indicated. The Committee further hopes that it will be given an opportunity of commenting on the rules to be framed by Local Governments before they receive legislative sanction."

At the same meeting the Committee considered the question of the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to parts of the Bombay Presidency and passed the following resolution :—

"This Committee is of opinion that it is necessary to extend the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to the districts of East and West Khandesh and other tracts particularly in view of the fact that the Central Provinces Government has only recently passed a similar Act. The Committee also desires to draw the attention of the Government of Bombay that the Bombay Act as at present worded cannot prevent the mixing of cotton waste with cotton and therefore requests the Government of Bombay to take in hand the necessary amendment so as to prevent the mixing of cotton waste with cotton."

The Committee also requests the Local Sub-Committee to report as to other areas in the Bombay Presidency to which it would be desirable to apply the Act."

The Government of Bombay have forwarded (Enclosure I) for opinion, the attached draft rules under the Bombay Amendment Act, and the attached draft notification making the Act applicable to the districts of East and West Khandesh and the cotton growing talukas of the Nasik District (Yeola, Malegaon, Nandgaon, Baglan, Kalwan and Chander) but only in so far as the watering of cotton, the mixing of cotton with cotton waste, mill fly, mill droppings, etc., and the presence of excess seed and/or foreign substances in the cotton, etc., are concerned. The Government of Bombay have requested the remarks of the Committee on the draft rules after consultation with the East India Cotton Association. The Notification and draft rules have been forwarded to the Association for an expression of their views.

As regards the other areas to which it is desirable to extend the Act, the Local Sub-Committee in considering this question, at its meeting on the 8th January 1937, decided to obtain the views of all bodies concerned and necessary action to this effect has been taken, the bodies addressed being the Bombay Chamber of Commerce, the Bombay Millowners' Association, the East India Cotton Association, the Indian Merchants' Chamber, the Ahmedabad Millowners' Association, and the Director of Agriculture, Bombay. The replies from the East India Cotton Association, the Bombay Millowners' Association, the Director of Agriculture, Bombay, and the Bombay Chamber of Commerce are attached (Enclosure II). The replies from the other bodies addressed have not yet been received.

The draft rules under the Bombay Amendment Act requiring comment are dealt with below :—

Rule 3(1) which deals with admixture of cotton has been framed in two sub-rules.

(a) prohibiting the mixture of ginned or unginned cotton with cotton waste, droppings, etc., and

(b) prohibiting prescribed mixtures of different varieties of cotton laid down in a schedule attached to the rules.

The Director of Agriculture in his letter to the Government of Bombay (Enclosure I) says :—

“ It is necessary to prescribe a mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning and pressing factory under rule 3 (1) (a) of the Rules under the Act in order to bring such a mixture within the scope of section 2 (aa) of the Act, i.e., ‘ a prescribed mixture of different varieties of cotton ’ as in the original Cotton Ginning and Pressing Factories Act, 1925, Section 2 (b), ‘ cotton ’ is defined to mean ‘ ginned or unginned cotton or cotton waste ’, the only alternative would be an amendment of the definition of ‘ cotton ’ in the original Act to exclude cotton waste, etc.”

In this connection it may be stated that recently a reference was made to the Committee's Solicitors on this very point, as a doubt was expressed whether under the Bombay Amendment Act, as it stands, the malpractice of mixing cotton waste, mill droppings, fly, etc., with good cotton could be adequately suppressed since Section 3-A prohibits the admixture of cotton, and Section 2 (aa) of the amended Act defines admixture of cotton as “ a prescribed mixture of different varieties of cotton ” whereas the definition of “ cotton ” in the original Act, Section 2 (b) includes “ cotton waste ”. The Solicitors have replied (Enclosure III) that it would be necessary to amend the definition of “ cotton ” by excluding the words “ cotton waste ” but in their opinion this would not be sufficient to remedy matters since “ cotton waste ” was not a “ foreign substance ”. They expressed the opinion that Section 5 of the Bombay Amendment Act required recasting. The Solicitors further stated that the passing of rules would not be of any assistance, as the rules framed must be authorised by, and not extend, the provisions of the Act. The rules must be consistent with the Act and cannot go beyond the matters referred to in Sections 12 and 13 of Act XII of 1925 as amended by Bombay Act IV of 1936. The opinion of the Committee's Solicitors has been forwarded to the Government of Bombay, who will no doubt consult their legal advisers before approving the above draft rule 3 (1) (a).

Rule 3 (1) (b) prohibits prescribed mixtures of cottons of different varieties laid down in a schedule.

As will be evident from the Director of Agriculture's letter to the Government of Bombay, it is proposed in the Notification to postpone the application of this Sub-rule for a period of five years. No schedule is attached, nor has it been prepared for the reasons stated in paragraph 4 of Director of Agriculture's letter to the Government.

Rule 5 (1).—The Collector of the District shall be the authority for the grant of licenses.

In the Central Provinces Rules, the Director of Industries is mentioned as the authority for the grant of licenses for the whole of the province.

Rule 5 (2).—The fee prescribed for a license is Rs. 250 while in the Central Provinces a fee of Rs. 10 (ten) *per annum* is prescribed.

In the Bombay rules no annual payment for the license is prescribed.

Rule 7.—The proportion of seed prescribed under sub-section 2 (a) of Section 3-A shall be one per centum.

In the Central Provinces Rules it is stated that it shall not exceed half per cent. of the weight of cotton.

Rule 8 (1).—The Director of Agriculture or the Deputy Director of Agriculture of the Division shall be the authority competent to grant a certificate as to the normal quantity of moisture a given quantity of cotton should possess and also the quantity of moisture it possesses.

In the Central Provinces Rules, the Agricultural Chemist to Government is stated as the authority competent to give such a certificate.

Rule 8 (2).—States the basis on which a certificate regarding moisture content should be issued, the Technological Laboratory of the Indian Central Cotton Committee being mentioned as one of the places for carrying out the analysis. The report of two selected members of the East India Cotton Association is also mentioned as the basis of a certificate regarding moisture content. It is not clear how they will be able to determine the normal or actual quantity of moisture present in cotton.

Complaints are to be made in writing to the Director of Agriculture or the Deputy Director of Agriculture of the Division in which cotton was pressed. In the Central Provinces Rules the Chief Inspector of Boilers and Factories is mentioned as the authority to whom complaints shall be made.

The fee prescribed is Rupees ten for each bale or package or part thereof.

In the Central Provinces Rules a fee of Rs. 100 is prescribed for each complaint, no mention of the number of bales concerned being made.

Rule 9 (3).—In Bombay the whole bale is to be seized, sealed and forwarded for examination and report. In the Central Provinces only samples are to be sealed and forwarded for report.

The Draft Notification declares that the provisions of the Bombay Amendment Act shall be made applicable to the districts of East and West Khandesh and the cotton growing talukas of Nasik district. This is in accordance with the Committee's request contained in its resolution passed at its meeting in August last.

As per paragraph (2) of the Draft Notification the provisions of Rule 3 (2) regarding the mixture of prescribed varieties of cotton shall not be made applicable to the areas notified.

Draft rules framed by the Government of Bombay under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936.

In exercise of the powers conferred by section 13 of the Cotton Ginning and Pressing Factories Act, 1925 (XII of 1925) as amended by the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (No. IV of 1936) the Government of Bombay are pleased to make the following rules to provide for the following matters, namely :—

Short Title and Commencement.

1. (1) These rules may be called the Bombay Cotton Ginning and Pressing Factories Rules, 1936.
- (2) These rules shall come into force from 1937.

Definitions.

2. In these rules, unless there is anything repugnant in the subject or context :—
 - (1) "Act" means the Cotton Ginning and Pressing Factories Act, 1925, as amended by the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936.
 - (2) "Section" means a section of the Act.
 - (3) "Factory" means a cotton ginning factory or a cotton pressing factory as defined in the Act.

Admixture of Cotton.

3. (1) The mixture prescribed for the purposes of Section 2 (aa) shall be
 - (a) a mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning factory or a cotton pressing factory,
 - (b) such prescribed mixtures of different varieties of cotton as are laid down in the attached schedule.
- (2) Notwithstanding anything herein contained, the Government of Bombay may, for such period as may be prescribed, postpone the application of sub-rule 3 (1) (b) or exempt any local area from its operation.

Season.

4. The season shall be the period between the _____ and the _____ in each year.

Grant of License.

5. (1) An application for a licence under this Act may be made by the owner of the factory to the Collector within the local limits of whose jurisdiction such factory is situated.
- (2) The fees prescribed for any such license shall be two hundred and fifty rupees and every application for a license shall be supported by a Treasury receipt showing the payment of the said amount in the Treasury.
- (3) Subject to the restrictions imposed by or under the Act, or under the rules, a license shall be issued in form A.

Provided that in the case of factories constructed after the commencement of these rules, a license shall not be granted except upon the production of a certificate from the Chief Inspector of Factories, Bombay, that the structural requirements specified in sub-sections (1) and (2) of section 9 have been duly provided in the factory for which the application for license is made.

Particulars of Cotton Ginning Factories.

6. The particulars of the cotton ginning factory prescribed under sub-section (2) of section 3 shall include, the name of the factory, its situation and the name of the owner or occupier.

Proportion of Seed.

7. The proportion of seed prescribed under sub-section (2) (a) of section 3-A shall be one percentum.

Authority competent to give a Certificate of Moisture.

8. (1) The Director of Agriculture or the Deputy Director of Agriculture of the Division concerned shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of cotton should have, as also the quantity of moisture it possesses.
- (2) Such certificate may be based on
- (a) an analysis of the cotton carried out at any Agricultural Research station of the Agricultural Department in the Bombay Presidency, or at the laboratory of the Indian Central Cotton Committee, Matunga, Bombay, at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay, or
 - (b) the report of such members of the East India Cotton Association, not less than two in number, selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay, from the panel of arbitrators elected, under the rules in force for the time being of the said association.

Complaint of Offences.

9. (1) Any person interested may make a complaint that there has been a contravention of the provisions of section 3-A of the Act in respect of any cotton, package or bale.
- (2) Such complaint shall be made in writing to the Director of Agriculture or the Deputy Director of Agriculture of the Division in which cotton was pressed and shall be accompanied by a sample of the cotton complained of; provided that no such complaint shall be entertained unless a fee of Rupees ten for each bale or package or part thereof is paid at the time of making the complaint.
- (3) The Director of Agriculture or the Divisional Deputy Director of Agriculture concerned, on receipt of such complaint, shall cause the cotton, package or bale in respect of which the complaint has been made, to be seized and sealed and shall forward the same for examination and report to the authority prescribed under these rules.

Authority competent to examine cotton, etc.

10. The authorities competent to examine such cotton or the contents of such package or bale shall be
- (1) the Director of Agriculture,
 - (2) the Deputy Director of Agriculture or
 - (3) any two persons selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay from the panel of arbitrators elected under the rules in force for the time being of the said Association,

Sealing of cotton seized.

11. The cotton, package or bale shall be resealed in the manner prescribed in these rules after the examination referred to in Rule 10.

Manner of Sealing.

12. All things seized and required to be sealed under this Act shall be sealed with the official seal of the Officer sealing the same and, if the owner or the person in charge of the factory so desires, also with the seal, if any, which he may provide for this purpose.

DRAFT NOTIFICATION.

Bombay Castle,

1937.

No. (1) In exercise of the powers conferred by section 3-A of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (Bombay Act No. IV) the Government of Bombay is pleased to declare that the provisions of this Act are made applicable to all the ginning and pressing factories situated in the districts of East and West Khandesh and the cotton growing talukas of the Nasik District such as (1) Yeola, (2) Malegaon, (3) Nandgaon, (4) Baglan, (5) Kalwan and (6) Chandor with effect from 1937 in order to provide against watering of cotton, mixing of cotton with cotton waste, mill-fly, mill-droppings, etc., presence of excess seed and/or foreign substances in the cotton, etc.

(2) Under the provisions contained in Rule 3 (2) of the Rules framed by the Government of Bombay under the above-noted Act, the Government of Bombay is pleased to exempt the areas mentioned in paragraph (1) of the notification from the operation of sub-rule 3 (1) (b) for a period of five years from the date upon which the Act is made applicable to these areas, i.e. 1937.

APPENDIX VII.

SUBJECT 16.—*Half-yearly Report of the Publicity and Propaganda Officer.*

Publicity and propaganda work of the Indian Central Cotton Committee continued to make steady and unostentatious progress during the half-year covered by this report. Despite heavy work of correspondence with Departments of Agriculture of different provinces and Indian States regarding cotton exhibits requisitioned from them, preliminary to the organisation of an elaborate cotton stall at the United Provinces Industrial and Agricultural Exhibition, Lucknow, the work of broadcasting research and promotional activities of the Committee and bringing the latest improvements to the notice of its constituents by means of illustrated pamphlets, bulletins and leaflets, posters and the like, was maintained and extended.

2. Publicity secured was larger in extent and volume. Propaganda work done by the Committee's Propaganda Officer reached greater number of people, especially the inhabitants of villages who had till now not realised fully the scope and necessity of improvements designed to yield a better outturn. Good results were obtained.

All-India United Provinces Industrial and Agricultural Exhibition.

3. With a real claim to the title and planned on a most ambitious scale, the imposing exhibition was opened by His Excellency the Governor of United Provinces and later honoured by His Excellency the Viceroy of India who paid to it a visit on December the 15th. Giving a concentrated picture of the development of industries and agriculture of India, including the smaller and cottage industries, this unique exhibition displayed exhibits and demonstrations from various departments of provincial Governments as well as the Government of India.

Exhibits at the Cotton Stall and their arrangement.

4. In this great exhibition, side by side with the stalls of the United Provinces Department of Agriculture, and Indian States, the Publicity Officer of the Indian Central Cotton Committee organised a stall at which were displayed samples of seed cotton and lint received from the United Provinces, Punjab, Sind, States in Central India and Rajputana, Central Provinces, Hyderabad, Bombay and Madras; technological exhibits of standard Indian cottons; entomological exhibits, charts etc. relating to the United Provinces Entomological Research Scheme; publicity and propaganda literature, posters etc., and *kapas* from 1/10th of an acre of heat treated and untreated seed, charts and pictorial displays to support the actual samples of improved *kapas* and demonstration methods of sun-heating seed cotton to combat the Pink-Boll-worm evil in the United Provinces.

5. A photograph of the stall is on view in the Committee Room and this will give some idea of the Committee's stall and the exhibits displayed.

6. An interesting feature of the Committee's stall was the daily demonstration of the methods of fibre and yarn tests by the staff of the Technological Laboratory, Matunga, which was both attractive as well as instructive.

7. The stall was well laid out and the arrangement of exhibits was orderly. Proper prominence and place was given to proper thing, over-crowding avoided and the space harmonised with the general design which helped in the production of total effect. This facilitated a proper study of the exhibits, even when crowds of people were constantly taken round.

8. Thousands of people visited the stall every day. In fact it was regarded as one of the most popular attractions in the exhibition.

Work at the Stall.

9. Visitors came not only from all over United Provinces but also from distant provinces and States. The Publicity and Propaganda Officer took the visitors round and explained to them the meaning and special features of varieties of cotton displayed at the stall. A very critical examination of the exhibits was made by enlightened and interested people who made numerous enquiries. Some of these related to the extent and locality of growth of particular varieties, their monetary return and their characteristics such as lint length, ginning percentage, yield per acre, resistance to disease, spinning performance, strength of fibre, elasticity and other characteristics. Others dealt with the Committee's programme to popularise and extend the best cottons. The activities of the Lancashire Indian Cotton Committee in increasing the popularity of Indian growths in Great Britain, came under critical examination (the larger off-take was stressed by the Publicity Officer—United Kingdom purchased Indian cottons worth approximately Rs. 30,000,000 in 1934, Rs. 25,500,000 in 1935 and Rs. 38,000,000 in 1936). Anxiety was expressed over the Indo-Japanese Trade Agreement in order to prevent Chinese cotton from competing with Indian cottons. This led to enquiries being made regarding the steps taken by the Indian Central Cotton Committee for finding wider markets to increase the use of Indian short staple cotton. All the available information was given. The policy of the Indian Central Cotton Committee to replace wherever possible short staple cottons with medium and long staple varieties was made a point of discussion by some visitors who were enlightened on the subject.

10. In a likewise manner information regarding the extension of control measures to combat the Pink Boll-worm pest of cotton which causes a loss of something like 2½ crores of rupees every year to the cotton crop of United Provinces; the efficacy and results of the heating process; the contrast between the crop of treated area with adjacent uncontrolled areas in regard to yield, quality of lint, opening of bolls and general appearance of the crops and the prices realised; the method of financing control measures; the clauses of the recently enacted bill to control the Pink Bollworm, especially those in relation to penalty for leaving untreated stocks of cotton seed for a length of time; the desirability of subjecting imported seed to heat treatment; the application of Cotton Transport Act to enforce this; the need for preventing diversion of cotton to ginneries outside the demarcated zone; and the benefits which would accrue alike to growers, merchants and ginning interest, was also given. The decided superiority of the produce from 1/10th of an acre of treated area over the untreated area; charts and diagrams explaining the difference in yield and value and the work done by the United Provinces Department of Agriculture with financial aid from the Indian Central Cotton Committee to mitigate the ravages of the Pink Boll-worm were fully explained.

11. Further information regarding the Committee's activities in the sphere of introducing and extending improved varieties of cottons, especially in establishing a compact block of long staple cotton in Sind, opening of regulated cotton markets and elimination of inferior types of cotton, was frequently asked and furnished. In short educative propaganda was carried on among cotton interests and the general public on subjects detailed above and on those connected with the regulation and improvement of the cotton trade and marketing. This created interest to know more about the Committee's activities in the production and development of good quality cottons in India.

Technological Demonstration.

12. In the technological demonstration section of the Committee's stall a simple and yet effective demonstration was given by Messrs. Deo and Kharkar, technological assistants from the Committee's Laboratory, with 2 sets of apparatus for fibre and yarn tests. The object of the fibre testing apparatus is to study the length and strength of cotton fibre. The yarn testing instruments worked by Mr. Kharkar demonstrated the utility of testing the strength, counts, elasticity, twist, uniformity and general characteristics of yarn. A visitor to this section was shown the Draw Box which performs the function of parallelising fibres. He was then interested in the "Baer Sorter" which drops combs of different lint lengths on a black plush cloth. The sorting of fibres was also performed with the aid of Ball's Sorter on an oblong piece of plush. The instrument next to see was the Laboratory Length Tester by means of which the mean length and weight of fibre are determined. Then there was the O'Neill's Hair Tester, demonstration with which denoted the strength employed for breaking the fibre. Working on the same principle the modified Hair Tester, having U Tubes and 2 floats, recorded on a dial worked by electrical mechanism, the number of turns involved in the breakage of fibre.

13. The work of yarn testing was conducted by Mr. Kharkar with Goodbrands' Single Thread Tester. Another instrument brought in use to test the yarn was the Goodbrands' Ballistic Lea Tester. The instrument showed the principle of measuring the work done by pendulum in breaking a group of yarns. The work done in breaking the lea is measured in inch pounds and since all the threads of the lea break almost simultaneously, the work done is directly proportional to the number of threads. To determine the number of twists or turns per inch of a twisted yarn, the "Baers Twist Tester" was employed for demonstration and the turns of a yarn 10 inches long which was fixed between two grips, read from the graduated disc attached to the instrument. On the yarn being untwisted the graduated circle gave the number of twists in the yarn, from which average twists per inch could be found out. And lastly demonstration work to judge the quality and evenness of yarn was carried out with the "Card Winding Machine" which winds the yarn in parallel lines at regular spacing on a black card.

14. The technological assistants explained and expressed in a moderately fair Hindustani the methods involved in the working of the apparatus and the Publicity and Propaganda Officer supplemented their efforts by making clear in intelligible Hindi and Urdu the work involved. He further served the visitors by giving short talks on the utility aspect of the instruments to the cotton breeder, the trade and the manufacturer.

Prominent Visitors.

15. Importance was lent to the stall of the Committee by His Excellency the Viceroy showing very keen interest in the Exhibits and asking several questions. The following were some of the high personages, officials and prominent visitors who visited the stall:—

His Excellency the Viceroy of India,

His Excellency the Governor of the United Provinces,

His Highness Maharaja Alija Bahadur Schindhia of Gwalior State,

His Highness the Maharaja Raja of Jhalwar State,

His Highness the Raja Sahab of Tehri,

His Highness the Maharaja of Sirmore,

His Highness the Maharaja of Orcha,

His Highness the Raja Sahib of Sailana,

His Highness the Maharaja of Bikaner,

His Highness the Maharaja of Benares,

The Honourable Kunwar Sir Jagdish Prasad, Member for Education, Health and Lands, Government of India,

The Honourable Sir Frank Noyce, Member for Industries, and Labour Government of India,

The Honourable Sir James Grigg, Finance Member, Government of India,

The Honourable Sir Zaffarulla Khan, Commerce Member, Government of India,

The Honourable Sir N. N. Sircar, Law Member, Government of India,

The Honourable Sir Jawala Prasad Srivastava, Minister, United Provinces Government,

The Honourable Kunwar Sir Maharaj Singh, Minister, United Provinces Government,

The Honourable Sir Bertrand Glancy, Political Secretary, Government of India,

Sir Bryce Burt, Vice-Chairman, Imperial Council of Agricultural Research,

The Right Honourable Sir Tej Bahadur Sapru,

The Honourable the Nawab of Chhatari,

Colonel Olver, Animal Husbandry Expert,

Sir Joseph Kay,

M. Bahadur K. M. Bapna, Commissioner, Holkar State, Indore,

Thakur Charni Singh, Chief of Panchor, Ratlam State,

Thakur Sahib of Bidhal, Dhar State,

Raja Sahib Mahipal Singh, Chief of Saila State,

The Maharajkumar Sahib of Kota State, Rajputana,

Raja Jawala Prasad, Vice-Chancellor, Benares University,

Thakur Sahib of Girigarh, Jaipur State,

Raja Sahib of Sikar, Jaipur State, Rajputana,

Thakur Sahib of Mullan,

The Raja Bahadur of Orchha,

Raja Sahib Bhinga Raj,

Raja Jagannath Bax Singh,

Raja Mahipal Singh of Sarila State,

Thakur Sahib of Bajasa, Aligarh State,

Raja Sahib of Geejgarh, Jaipur State,

Raja of Payagpur,

Raja of Pirpur,

Sir Mohamed Yakub, M.L.A.,

Raja Kushal Pal Singh,

Raja Sahib Bungara,

Thakur Kabjan Singh, Zamindar, Barampur,

Thakur Sahib of Neimkhara, Dhar State,

Raja Sahib of Sheogarh,

Raja Sahib Mackhanch, Gwalior State,

Captain Bingley, D.Ag., and Registrar, Co-operative Societies, Indore,

Mr. Advani, Conservator of Forests,

Mr. Raholkar, Commissioner of Holkar State, Indore,

The Raja Sahib of Nagodi,

The Raja of Pirpore,

The Raja of Salempur,

Mr. Rajdani, D.Ag., Udaipur State,

Sardar Govind Singh, Agricultural Officer, Jodhpur State,

Mr. Ram Dayal Mathur, L.Ag., Director of Industries, Marwar Raj,
 R. G. Allan, Esq., Commissioner of Agriculture, Baroda State,
 R. T. Shivdasani, Esq., I.C.S., Director of Industries, United Provinces,
 Mr. Mazumdar, Director of Agriculture, Orissa,
 Mr. G. S. Lal, Managing Member, Committee, Federation of Commerce and
 Industries,
 Mr. Munro, Lucknow,
 Kazi Aminuddin Ahmad, Naib Diwan, Datia State,
 G. S. David, Esq., Cane Control Officer, Meerut,
 Mr. Teji Ram, Accounts Officer, Jhansi,
 A. Md. Ishaq Sahib, Revenue Secretary, Bhopal State,
 The Maharajkumar of Khuchipur State,
 Thakur Mahendir Singh, Revenue Member, Bundi State,
 Maulana Shaukat Ali, M.L.A.,
 Kanwar Narain Singh, Chief Revenue Officer, Jhalwar State,
 Mr. Debi Prasad Khetan, Jubbulpur,
 Maharaj Zalin Singh,
 Brij Bhushan Singh, Esq., I.C.S.,
 Kanwar Sahib Shri Sur Singhji, Director of Agriculture, Jamnagar State,
 G. M. Harper, Esq., I.C.S., Commissioner of Lucknow,
 Sirdar N. S. Apte, Jagirdar of Gwalior State,
 J. C. McDougall, Esq., I.A.S., Director of Agriculture, Central Provinces,
 Capt. Webb of Skore State,
 Mr. Zutshi of Sikamgarh State,
 Sirdar Zahannane, Minister, Holkar State,
 M. Khan Bahadur S. Qaimjo, Finance Minister, Indore,
 Mr. Suryawanshi, Gwalior State,
 Kanwar Rajkumar Singh of Indore,
 S. Mirzah, Esq., of Hyderabad,
 Mahant of Gorakhpur,
 Kanwar Dali Singh, Dewan of Johat State, C.I.,
 Rai Bahadur Thakur Kaisar Singh, Dewan, Kishengarh State (Rajputana),
 Mr. Ram Dayal Trevedi, Zamindar,
 The Deputy Director of Co-operative Societies, Gwalior State,
 Mr. Raj Mohan, Retired Chief Engineer, United Provinces,
 Professor Kaul, Research Worker,
 Members of the Japanese Delegation,
 The Honourable Rai Bahadur Lala Ram Saran Dass,
 Rao Bahadur Th. Chani Singh,
 Mr. Hridaynath Kunzru, President of Servants of India Society,
 Sahebzada Walid Ali Khan, Dehra Dun,
 Mr. C. F. Andrews,
 Ch. Lal Singh, Fruit Expert, Government of Punjab,
 Rai Sahib Sahrna, Bulandshahr,
 Kanwar Vishwanath Singh,
 Dr. N. L. Dutta, Assistant Sugarcane Expert, Coimbatore,
 Prof. Sahah with a party of 250 students,
 Mr. Ganpat Sahai, Cane Development Supervisor,
 Mr. Hanuman Singh, Cane Development Supervisor,
 Mr. Kedar Nath Misra, Cane Development Supervisor,
 Deputation of Officers from Nepal,
 Col. Sajjan Singh, Chief Secretary, Orchha State,
 Rai Bahadur Pandit Uttam Narayan, Naib Diwan, Sailana State, and
 Parties of cultivators, Departmental Officers of Agriculture and students.

Special publications for the exhibition.

16. An attractively printed pamphlet in English, Hindi and Urdu, describing the aims and achievements of the Committee in relation to scientific research work, extension of improved varieties of cotton and legislation connected with the regulation and improvement of the cotton trade and marketing was specially prepared in popular form and distributed to interested visitors.

17. In addition, an illustrated leaflet giving an idea of the work being done at the Committee's Technological Laboratory was also published and distributed.

18. Demand for publicity and propaganda literature was very great. Many thousands of copies could have been freely distributed to the Committee's advantage but for reasons of economy copies were given only to those who were really interested and anxious to obtain the fullest information.

Press publicity for cotton work at the Stall.

19. In order to ensure wide publicity through the press in United Provinces, the Publicity and Propaganda Officer of the Committee interviewed editors of the "Pioneer" (Lucknow), "Leader" (Allahabad) and "Humdum" and "Haqiqat" (Lucknow) and enlisted their co-operation. This resulted in the "Leader" devoting a good deal of space to a descriptive article on the work of the Committee and increasing interest shown by others to give a fairly full account of the outstanding achievements of the Committee in the production, marketing and manufacture of cotton in India.

20. A special article on the utility of fibre and yarn tests to agriculture, trade and cotton industry was circulated in the papers mentioned above. This should make the work of the Technological Laboratory better known.

21. The following telegram dated the 29th January 1936 from the Officer in charge Agricultural Section, United Provinces Industrial and Agricultural Exhibition, Lucknow, to the Committee's Secretary would show the interest created by the Publicity and Propaganda work of the Committee.

"Government sanctioned extension Exhibition up to 24th February. Cotton Publicity and Propaganda being carried out with excellent results, suggest continuance of present arrangements."

Work at Headquarters.

22. In the sphere of press publicity, newspapers both in English and Vernacular were utilised to reach wider public. The following press communiqués and articles etc. were issued during the half-year under report :—

(1) Report of the 33rd half-yearly meeting of the Indian Central Cotton Committee. This communiqué dealt with the important subjects taken up for discussion at the meeting of the Committee, held on the 17th and 18th August 1936 and the decision arrived at. It was issued as usual to leading papers throughout India and abroad.

(2) Quality of lint in relation to ginning factors. This press note gave a summary of the experiments conducted at the Technological Laboratory, Matunga, to determine the effect on the fibre properties and spinning qualities of nine representative Indian cottons, by employing two different settings of the moving knife in a roller gin and interesting conclusions drawn from them.

(3) Facilities for training at the Technological Laboratory, Matunga. This was a note issued to the press to invite applications for studentships for training in the elements of spinning and the routine methods of testing cotton fibre and yarn at the Technological Laboratory, Matunga.

(4) Cultivation of cotton in India. This article received from the publishers of the Indian Cotton Textile Industry Annual, Calcutta, was brought up to date with assistance from the office, expanded and quality of its contents considerably improved. The annual embodying the article is under print and will have a wide circulation.

(5) *Cotton Court in the United Provinces Exhibition.*—This article appeared in the "Leader", Allahabad, of February 6th, 1937, and dealt with the cotton exhibits displayed at the Committee's stall. The outstanding achievements of the Committee in the production, improvement and development of cotton in India were summarised. It is worthy of note that this national daily which described most of the non-agricultural stalls as devoid of interest showed keen appreciation of the work of the Committee done at the stall in the interest of cotton growers, cotton trade and cotton industry.

(6) Technological demonstration at the Indian Central Cotton Committee stall, United Provinces Industrial and Agricultural Exhibition, Lucknow. This article was written for the "Pioneer", Lucknow, and described the important work of fibre and yarn testing and the utility of these tests to all interests concerned.

(7) Article on the above subject was also sent to "Haqiqat" and "Hamdam", Lucknow, in a modified form.

In addition to the above a press communiqué on the 34th half-yearly meeting of the Committee was issued to the press.

Pamphlets.

23. Dissemination of scientific and practical knowledge through the medium of publications, making a comprehensive survey of the wide range of Committee's beneficent activities and setting forth in popular language what the Committee has already accomplished in the improvement of cotton by research, expansion of improved varieties and by the improvements in the marketing of Indian cotton, continued to occupy the Publicity and Propaganda Officer's time and attention.

24. During the period under review the following pamphlets were published:—

Indian Central Cotton Committee, its objects, activities and achievements.—This is a comprehensive and well-balanced illustrated pamphlet which has proved very useful to members of Indian legislative bodies, commercial and trade associations, and to the general public. Separate chapters are devoted to the main branches of the Committee's activities and the pamphlet makes easily accessible results of fundamental and technical research work on cotton undertaken on behalf of the Committee. The Hindi, Urdu, Marathi, Gujarati, Tamil, and Telegu versions of the pamphlet are being made available to reach wider public.

Illustrated leaflet on the work done at the Technological Laboratory, Matunga.—This leaflet, giving an idea of the work being done at the Laboratory, was published in English, Hindi and Urdu. It was distributed freely at the United Provinces Industrial and Agricultural Exhibition, Lucknow. It helped to read contemporary publications of the Technological Laboratory, made available for sale at the stall.

Pink Boll-worm Pest of Cotton and how to control it.—This popular pamphlet in English, Hindi and Urdu versions, embodying the life and habits of the Pink Boll worm pest, the extent of damage caused by it to the cotton crop of United Provinces, the methods of controlling the pest, and the results of experiments conducted by the United Provinces Department of Agriculture, with up-to-date figures, was published for focussing the attention of cotton growers, cotton merchants and gin owners to the Pink Boll-worm evil in the Province and to the necessity of combating that evil by co-operating with Indian Central Cotton Committee and the Government of United Provinces. Copies were distributed free of cost at the Committee's stall to interested visitors.

Indian Central Cotton Committee—A brief account of its activities and achievements.—The educative value of this pamphlet with vernacular versions in description of the aims and achievements of the Committee during the 14 years of its existence was appreciable. It was distributed free of cost at the Exhibition and aroused considerable interest.

Summary of Proceedings.—A summary of the discussion on the subjects considered at the 33rd meeting of the Committee had once again to be prepared by the Publicity Officer during the United Provinces Industrial and Agricultural Exhibition at Lucknow.

Guide to Indian Cottons.—This was a joint publication of the Indian Central Cotton Committee and the East India Cotton Association. It was revised and the quality of its contents was improved by the Publicity Officer.

The total number of pamphlets published during the half-year was 16 of which 13 have already been issued.

Posters.

Raw Cotton position in India.—A poster with attractive designs depicting three aspects of the cotton industry, e.g., agriculture, mill industry and export, was recently printed for use in the United Provinces Exhibition and vernacular versions are under print. The poster contains up-to-date figures regarding raw cotton position in India (export and home consumption) and draws attention to the importance of cotton—India's great national industry.

B. D. 8 poster.—In furtherance of propaganda campaign for the extension of B.D.8 cotton in Gujerat in preference to "Goghari" a poster showing the outstanding characteristics of B.D. 8, such as its superior spinning qualities, resistance to wilt, greater lint out-turn per acre and better monetary returns, in contrast to wilt susceptible and low spinning performance of Goghari cotton, was brought out. A sufficient number of copies will be supplied to the Director of Agriculture, Bombay Presidency. The Publicity and Propaganda Officer hopes to supplement his efforts by paying an early visit to the district to carry on propaganda work on the spot.

Enquiries received and answered.—A fair number of enquiries was received during the period under report from this country and abroad and attended to. These enquiries denote usefulness of the informational service of the Committee which has the effect of quickening of interest in the Committee's activities.

Invitations not availed of.—The Publicity and Propaganda Officer regrets that he was not able to be present at the following exhibitions, owing to the decision of the Committee to participate in the United Provinces Industrial and Agricultural Exhibition, Lucknow :—

- (1) Hyderabad (Deccan) Exhibition.
- (2) Ahmedabad Exhibition.
- (3) Hyderabad (Sind) Exhibition.
- (4) Faizpur Exhibition.

Tours.

During the half year under report, the Publicity and Propaganda Officer of the Committee visited Lucknow, Cawnpore, Allahabad, Delhi and Poona in connection with publicity and propaganda work of the Committee.

19th February 1937.

(Signed) R. D. MIHRA.

APPENDIX VIII.

SUBJECT 17.—*Summary of Proceedings of the Local Sub-Committee.*

Secretary's Note.

Two meetings of the Sub-Committee were held since the last meeting of the Committee in August 1936. Messrs. A. P. Darlow and J. Vonesch having resigned, their places on the Sub-Committee were taken by Messrs. G. C. R. Coleridge and J. L. Hurschler respectively, who succeeded them on the Committee.

2. Complaints regarding incorrect marking and fraudulent packing of bales, watering of cotton and admixture in cotton, and the action taken thereon were considered and recorded by the Sub-Committee. In one case the question of the admissibility of the arbitration award of the East India Cotton Association as evidence against a factory raised by a District Magistrate was referred to the East India Cotton Association who suggested that the difficulty and expense involved in producing evidence might be partially got over by issuing a commission to Bombay to take the evidence of the seller, one of the arbitrators and the survey clerk. This suggestion was communicated to the District Magistrate concerned.

3. The Chairman, Dhulia Cotton Market Committee, drew the attention of the Committee to the increase in that market of the sales of cotton waste which was being used for mixing with good cotton. Owing to the doubt which existed as to whether such mixing could be prohibited under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act in view of the definition of "cotton" in the original Act which included "cotton waste", "mill droppings", etc., the Sub-Committee decided to refer the question to the Committee's Solicitors. The Solicitors expressed the view that the definition of "cotton" in the original Act did not exclude "cotton waste" etc., and that an amendment of Section V of the Act would be necessary to provide for its exclusion. The Sub-Committee decided that the views of the Solicitors should be forwarded to the Government of Bombay for necessary action.

4. The question of the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to parts of the Bombay Presidency was considered and it was decided that before making recommendations to the Government of Bombay the views of the trade bodies concerned and of the Director of Agriculture, Bombay Presidency, should first be obtained.

5. A letter was received from the Madras Government asking for the views of the Committee regarding the proposal to amend the Indian Cotton Ginning and Pressing Factories Act so as to make the installation of *kapas* openers obligatory on those who started new gins and those who wished to renew old gins. In connection with a previous reference from the Commissioner of Labour, Madras, suggesting the cancellation of item 9 of the Madras Government notification under the Madras Cotton Ginning and Pressing Factories Rules requiring the compulsory installation of *kapas* openers in all new ginning factories, the Sub-Committee had expressed the view that it would be unfair that new factories should be compelled to have *kapas* openers while no such restriction was imposed on old ones and that if no general compulsion were possible the item in question should be cancelled. The Sub-Committee decided that the view already expressed should be adhered to and the Madras Government was informed accordingly.

6. In considering complaints received from the International Federation regarding foreign matter in Indian cotton the Sub-Committee had decided that the Federation should be asked for the experience of their members about American cotton and for the Federation's views on this cotton as recorded in the minutes of their meetings. The Sub-Committee considered and recorded the reply of the Federation together with copies of its discussions and resolutions dealing with complaints regarding American cotton.

7. A complaint regarding the presence of pieces of leather waste in Indian cotton received from the Austrian Association was forwarded to the Committee by the International Federation. Press marks found on the hoops of three bales were reported and it was stated that there were no marks on the hoops of other bales. As probably the Austrian Association are not aware that press marks can be put on the hessian covering it was decided to request the International Federation to intimate to the Austrian Association that it is permissible to put press marks on the hessian covering and the remedy lay in the hands of the spinners themselves who should instruct their agents and shippers in India to refuse to buy any bales carrying the same press marks as those previously found on bales which contained "foreign matter".

8. The Sub-Committee also considered and recorded a complaint made to the President of the Indian Central Cotton Committee by a member of the Lancashire Indian Cotton Committee regarding the difficulty which he had experienced owing to the presence of foreign matter in Indian cotton. As the President had already pointed out to the complainant that there was no possibility of the Indian Central Cotton Committee doing anything definite unless bale numbers and press marks or other particulars were furnished, no further action seemed necessary.

9. In connection with a complaint regarding the unsatisfactory manner of ginning and pressing Punjab-American cotton the Director of Agriculture, Punjab, issued a circular to all occupiers of ginning and pressing factories in the Punjab impressing on them the necessity of taking steps to avoid the recurrence of such faults and requesting them to take necessary precautions to raise the standard of ginning and pressing cotton. The Manager of a ginning and pressing factory at Panipat sent a reply to the Director of Agriculture in which he suggested the desirability of passing cotton through a cotton opener or opening and cleaning it through a *jaffri*. A copy of this reply received through the Director of Agriculture, Punjab, was considered by the Sub-Committee and it was decided that as the process of cleaning recommended was of doubtful utility any further action was unnecessary.

10. In connection with the question of the proposed introduction of the system of licensing gins and presses in the Punjab, the Committee at its meeting in August last decided that before expressing its final opinion on the proposal to permit mixing provided the proportion of the mixture was clearly stated on the bale, it should be first considered in detail by the Sub-Committee and that members from the Punjab and Sind who might be interested should be co-opted on the Sub-Committee. The Director of Agriculture, Punjab, subsequently informed the Committee that in view of the great complexity of the problem, the Punjab Government had decided to defer action regarding the introduction of a Bill to check the mixing of *Desi* cotton with American, until the results of legislation undertaken in Bombay and the Central Provinces were known. The question was therefore not further considered by the Sub-Committee.

11. The Committee at its meeting in August last considered the translation of a Hindi circular issued by the Gwalior Durbar imposing restrictions on the ginning and pressing of cotton in the State. Clause 3 of the circular required that the owner or person in charge of a pressing factory should cause all the bales pressed in his factory to be marked in such a way as to show clearly the kind of cotton contained in the bale, i.e. Malvi, Mewadi, or Bengals and to indicate clearly whether the bale contained pure or mixed cotton. In view of the discussion on the subject "proposed introduction of a system of licensing gins and presses in the Punjab" and the decision that the question regarding "mixture" should be referred to this Sub-Committee the Director of Agriculture,

Gwalior, enquired whether the orders issued by the Gwalior Durbar should be adhered to or whether the marking of bales as pure or mixed should be stopped. It was decided that the matter should be considered by the Sub-Committee along with the Punjab question. Since the Punjab question was not taken up by the Sub-Committee as will be seen from the previous paragraph, the Sub-Committee decided that the Gwalior Durbar should be requested to suspend clause 3 of their circular, requiring bales to be marked as pure or mixed as the case might be, till the proposal of the Punjab Government for licensing gins and presses was considered by the Committee.

12. The Sub-Committee considered a resolution forwarded by the Taluka Development Association of Shirpur regarding the establishment of a regulated cotton market at Shirpur. The Association was asked to address the Director of Agriculture, Bombay Presidency, in the matter as the administration of the Bombay Cotton Markets Act rested with the provincial Government. No other action was considered necessary on the part of the Committee.

13. The Draft Rules under the United Provinces Cotton Pest Control Act, forwarded for opinion by the United Provinces Government, were considered by the Sub-Committee and it had no remarks to offer thereon. These Rules are dealt with separately as item No. 10 on the agenda of this meeting of the Committee.

14. The Sub-Committee considered a representation of Bombay cotton dealers regarding hardships arising from the application of Section 14 of the Cotton Ginning and Pressing Factories Act and decided that the subject should be referred to the full Committee. It constitutes item No. 15 on the agenda of this Committee.

15. The Sub-Committee considered and recorded the reply received from the Chairman, Lancashire Indian Cotton Committee, expressing inability to supply information regarding details of the production in the United Kingdom of yarn up to 24's classified according to groups of counts. This information was called for in pursuance of a recommendation of the Special Sub-Committee to consider the question of a wider market for Indian cotton, which was approved by the full Committee at its meeting in August 1936.

16. At its meeting held on the 5th June 1936, the Sub-Committee considered a letter from the Director of Agriculture, Bombay Presidency, regarding the disparity in the through freight rates for cotton from Dhulia and Amalner on the one hand to Nagpur, Ahmedabad and Bombay on the other. It was pointed out that freight rates from Dhulia and Amalner to Bombay being special "station to station" rates were lower *pro rata* than those from Dhulia and Amalner to Ahmedabad and Nagpur which were the ordinary tariff rates. It was accordingly decided to address the railways concerned asking them how it was more advantageous to accept a lower rate for long distance transport from Dhulia to Ahmedabad through Bombay than for the direct shorter route from Dhulia to Ahmedabad. The replies received from the Railways were considered by the Sub-Committee. The Chief Traffic Manager, G. I. P. Railway, stated that the special rates of Re. 0-15-0 per maund R. R. from Amalner to Bombay and of Re. 0-14-2 per maund O. R. from Dhulia to Bombay were adjusted in competition with the rates available by other routes and by other competitive means of transport respectively, where such competition did not exist as in the case of the traffic from Amalner and Dhulia to Nagpur, cotton was charged at the full classified rates. The G. I. P. railway authorities expressed their regret that it was not possible for them to make any reduction in the existing rates. The General Traffic Manager, B. B. & C. I. Railway, has replied that the rates from Amalner and Nardana (situated in the vicinity of Dhulia) to Bombay had been specially reduced in relation to the rates obtaining by the rail-cum-sea route *via* Surat. As the position in regard to Ahmedabad was not analogous with the above, the railway authorities were of the opinion that it did not call for the application of the same method of adjustment of rates as had been adopted in the case of the rates to Bombay. They, however, reduced with effect from the 25th September 1936 the freight on raw cotton from Amalner and Nardana to Ahmedabad as shown below :—

			Old rate.		New rate.	
			Rs.	a. p.	Rs.	a. p.
Amalner to Ahmedabad	..	..	1	3 8	1	0 11
Nardana to Ahmedabad	..	..	1	2 5	1	0 0

As it was considered doubtful whether the lowering of the freight on cotton between the Khandesh and Central Provinces and Berar stations was likely to lead to increased consumption of Khandesh cotton in these provinces to any extent, the Sub-Committee decided that further action in the matter was unnecessary at that stage.

17. The Sub-Committee considered and recorded the letters from the East India and Karachi Cotton Associations, Ltd., in reply to an enquiry made of them by the Committee regarding the extent to which trading was done during the last cotton season with reference to the universal standards passed by the Standards Sub-Committee of the Indian Central Cotton Committee. The replies from the two Associations indicated that they had practically adopted the universal standards of the Committee as the basis for their own standards. The East India Cotton Association have, however, pointed out that the mandatory provisions of their Bye-laws preclude trading in the Bombay market on the basis of the universal standards themselves.

18. The suggestion of the Director of Agriculture, Bombay Presidency, to place the question of the disposal of B. D. 8 cotton before the Special Sub-Committee for the study of wider markets for Indian cotton and to circulate to mills and exporting firms the literature on the quality of this cotton, was considered by the Sub-Committee and it was decided that B. D. 8 should be given wide publicity when it was available in sufficient quantity and that in the meanwhile samples of this cotton should be sent to Sir Chunilal V. Mehta and Mr. S. D. Saklatvala for trial.

19. In 1923 and 1924, the Bombay and Baroda Governments issued separate notifications defining the protected areas under the jurisdiction of each and mentioning the stations situated in the three divisions into which the tract was divided, viz., the South Surat, the Surat and the Olpad-Ankleshwar areas. In the schedule of stations notified under the Baroda Act the railway stations in the Surat area were omitted to be notified. An amending notification issued by the Baroda Durbar including the stations of Kaher, Vyara, Doswada and Fort Songhad in the schedule of stations under the Baroda Cotton Transport Act, was considered and recorded by the Sub-Committee.

20. The Agricultural Research Sub-Committee at its meeting in August 1936, while considering the final progress report on the Athani Seed Distribution and Extension Scheme, recommended that in the case of seed extension schemes which have completed their allotted period the final progress report should contain a "Balance Sheet" in which an attempt should be made to set forth the actual results of the scheme in pecuniary return to the cultivators. This recommendation, which was approved by the full Committee at its meeting held in the same month, was communicated to the officers in charge of the seed distribution schemes. On a reference from the Director of Agriculture, Madras, the appended form in which the "Balance Sheet" in question should be sent was approved by the Sub-Committee.

21. The Sub-Committee considered a letter from the Director of Agriculture, Bombay Presidency, regarding the issue of licenses for the import of half-pressed bales of cotton from Vankal to Surat and decided that the Director of Agriculture should not issue licenses for the transport of half-pressed cotton bales to Surat from Vankal or from any other place outside the Surat Protected Area.

22. The Sub-Committee considered a letter from the Collector of Customs, Bombay, enquiring whether the Committee would like to discuss any questions relating to the Indo-Japanese trade with Mr. R. R. Saksena, Indian Government Trade Commissioner, Japan, who would arrive in Bombay on tour on the 12th March 1937, and decided that the Local Sub-Committee should meet Mr. Saksena on the 13th March 1937 at 11-30 a.m. and that the Karachi Cotton Association, Ltd., and the Bombay and Ahmedabad Millowners' Associations should also be asked to send their representatives.

Statement showing actual cash return to cultivators from the Seed Distribution Scheme.

- | | | |
|---|------|----|
| 1. Period of operation of scheme : | From | To |
| 2. Total area (in acres) proposed to be covered by scheme.— | | |
| 3. Total expenditure on scheme : Rs. | | |
| 4. Name of selected variety of cotton : | | |
| 5. Names of original varieties of cotton : | | |

	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year etc.
Area under cotton crop in hundreds of acres :—					
Selected variety Acres (00).					
Original varieties Acres (00).					
Yield of kapas in thousands of maunds (Indian Bengal) :—					
Selected variety Maunds (000).					
Original varieties Maunds (000).					
Average price per maund realised by cultiva- tors :—					
Selected variety Rupees.					
Original varieties Rupees.					
Total price in thousands of rupees realised by cultivators :—					
Selected variety Rupees (000).					
Original varieties Rupees (000).					
Gross gain to cultivators Rs. (000).					
Extra cost, if any, of total quantity of selected seed used for sowing over cost of seed or of original varieties Rs. (000).					
Nett gain to cultivators Rs. (000).					

Aggregate nett gain to cultivators during the whole period of the scheme Rs. (000).

N.B.—Please give remarks, if any, in regard to the difference between the prices of the selected variety and the original varieties becoming less and less due to mixtures or any other causes in course of time.

APPENDIX IX.

SUBJECT 18.—*Reports of enquiries into the village consumption of cotton in :—*

- (i) Bihar and
- (ii) Sind.

Secretary's Note.

It was recommended at the last meeting that further discussion on the subject of village consumption of cotton should be postponed till the reports of the enquiries in Bihar and Sind were received and a consolidated report on an all-India basis was put up for consideration. The reports from Bihar and Sind have since been received and form Enclosures* I and II respectively of the note.

2. As it was considered at the last meeting that the method adopted in the Madras report for arriving at the total village consumption for the Presidency was defective, the Statistical Officer, Board of Revenue, Madras, agreed to go into the matter in consultation with the Director of Agriculture, Madras. The Statistical Officer and the Assistant Marketing Officer, Madras Presidency, have now jointly examined the material and suggested to the Director of Agriculture, Madras, the necessary modification in the report as shown in the attached joint note (Enclosure* III) for arriving at a correct estimate of the village consumption in the Madras Presidency. As additional information for certain districts has still to be collected by the Director of Agriculture, the revised report for the Madras Presidency will be available by the next meeting. The drafting of the consolidated report on an all-India basis has, therefore, to be deferred till then.

3. As regards Bengal since the report did not contain actual data in respect of village consumption, it was thought that some information might be available from the survey of weavers conducted by the Board of Economic Enquiry, Bengal, during 1936. The Secretary of the Board has reported to the Director of Agriculture, Bengal, that the survey showed that hand-spinning was negligible in Bengal and that the quantity of cotton used for quilts, mattresses, etc., was not ascertained as the collection of such data did not fall within the scope of the Board's enquiry. The *per capita* consumption as ascertained from the Bihar enquiry would presumably be inapplicable to the Province of Bengal as a whole as the original report from Bengal showed that considerable quantities of waste cotton were used for making quilts, mattresses, etc. However, if the general *per capita* consumption of 12 lb. lint for Bihar is adopted for the rural population only of Bengal, the total village consumption amounts to about 14,000 bales.

4. *Bihar*.—The general *per capita* consumption for the Province amounts to 12 lb. on the basis of the enquiry and the total consumption for the province to 9,655 bales. The total consumption arrived at appears to be borne out by the rail-borne trade figures also which show that almost the whole of the locally grown crop is consumed for domestic purposes. The report is for consideration.

5. *Sind*.—The enquiry was first conducted in the three cotton-growing districts of Nawabshah, Thar Parkar and Hyderabad, and after considering the report thereon a supplementary enquiry in the Larkana district, representative of the non-cotton-growing area in Sind was sanctioned. The combined report (Enclosure* II) now received is for consideration.

6. It will be seen that in calculating the total village consumption for Sind, Punjab Muslims and Sikhs have been considered separately due to their peculiar position in retaining seed cotton for domestic consumption. The *per capita* consumption of consuming families is multiplied by the estimated number of consuming families of Punjabi Muslims and Sikhs to arrive at the total village consumption for these two communities. The *per capita* consumption for these communities taking consuming families alone comes to 6.7 lbs. lint cotton against 5.8 lbs. when consuming and non-consuming families are considered together. It may be noted that according to the Punjab enquiry the *per capita* figures for consumption for Sikhs and Muslims in the investigated districts were about 7 lbs. and 3 lbs. respectively of lint cotton.

APPENDIX X.

SUBJECT 20.—*Report of the Cotton Forecast Improvement Sub-Committee as amended by the Committee.*

The Sub-Committee met at 3 p.m. on the 1st March 1937.*

Village consumption of cotton in India.

Bihar.—The Sub-Committee recommends that the report of the Bihar enquiry into the village consumption of cotton might be approved and that the village consumption of cotton in Orissa might be arrived at by applying to the total population of Orissa the *per capita* consumption of caste group III (104 lb. lint) according to the Bihar enquiry.

Bengal.—As regards Bengal, the general *per capita* consumption of cotton for Bihar should be applied to the rural population of Bengal. An attempt might be made to arrive at the village consumption for the urban areas (towns) of Bengal on the basis of the figures of imports, exports, mill consumption etc. for a number of years.

Sind.—According to the report on the Sind enquiry most of the cotton used for domestic purposes appears to be waste cotton. As it was considered that a part of this waste cotton might be "peela" cotton from the ginning factories, it is suggested that the Chief Agricultural Officer in Sind should be requested to find out whether this presumption is correct.

United Provinces.—As the *per capita* consumption of cotton for domestic purposes for certain caste groups and district groups was found to be very high according to the report of the United Provinces enquiry, the Sub-Committee recommends that the Director of Agriculture, United Provinces, should be requested to carry out test enquiries in Saharanpur, Bijnor, Aligarh and Bulandshahr districts in respect of the high cotton consuming groups.

The Sub-Committee desires the all-India estimate of the village consumption of cotton in India based on the above enquiries and the consolidated report to be ready for consideration at its next meeting.

The Sub-Committee considered a note on the *post-mortem* examination of cotton forecasts of 1935-36 season which is also on the agenda of this Committee and recommends as follows :—

Punjab.—The attention of the Punjab Government should be drawn to the recurring under-estimation in the forecasted yield in the Punjab cotton forecasts. The Government should be requested to take up the question of the revision of the standard yield figures for cotton adopted in the preparation of the cotton forecasts.

Holkar State.—The discrepancy observed between the forecasted crop of the Holkar State and the “ actual crop ” as indicated by the figures of cotton ginned and cotton pressed plus loose cotton received at mills might be brought to the notice of the Director of Land Records of the State.

Hyderabad State.—The Hyderabad Government should be addressed to make the figures showing the destination of cotton consignments exported *by road* from the State available according to the civil districts of the adjoining provinces concerned.

As soon as the Madras figures on the basis of the season ending 31st January 1937 are available, a report on the accuracy of the all-India cotton forecasts of two seasons, viz., 1934-35 and 1935-36, should be drawn up for publication if possible before the issue of the next all-India forecast in April 1937. Thereafter such report should be published annually.

The Sub-Committee considered a request for an additional grant under travelling allowance for the Bombay Cotton Forecast Improvement Scheme and recommends for sanction a total sum of Rs. 800 for 1937-38 and 1938-39 to be met from the savings of the first two years of the scheme.

A note containing the views of the trade and forecasting authorities of the Provinces and States on the desirability or otherwise of a change in the present dates of publication of the all-India cotton forecasts was considered. The Sub-Committee suggests that the question might be referred to the Department of Education, Health and Lands of the Government of India for consideration and for the opinion of the Director General of Commercial Intelligence and Statistics.

The Sub-Committee reconsidered a recommendation made at its last meeting regarding the utilisation of trade estimates of the Indian cotton crop in Government cotton forecasts and suggests that the forecasting authorities might be requested to utilise trade estimates for purposes of checking Government cotton forecasts.

The Sub-Committee considered certain modifications suggested in the revised trade classification of cotton grown in the Central Provinces and Berar as accepted by the Committee and recommends as under :—

(1) There was no need to classify “ jadi ” cotton grown in the Chanda, Warora and Brahmapuri tahsils of Chanda district as a separate sub-class under “ Oomras ” since the production of “ jadi ” cotton is only about 5,000 to 6,000 bales.

(2) Verum cotton grown in the Central Provinces and Berar should be shown as a single sub-class, no distinction being made between “ Nimar Verum ” and Verum grown in the rest of the Province.

(3) As “ Buri ” or American cotton (also known as Khandwa Upland) is extending in the Burhanpur tahsil of the Nimar district, it should be shown as a separate sub-class under Americans.

(4) Yeotmal district, cotton from which is tenderable against Central Provinces No. 2 Fine M. G. Oomras under the Hedge contracts of the East India Cotton Association, should be included under “ Central Provinces Oomras ”.

The amended revised trade classification of cotton grown in the Central Provinces and Berar is attached :—

Description.	Tracts now proposed to be included.
1. C. P. Oomras ..	The whole of Central Provinces excluding Nimar District; Yeotmal District of Berar.
2. Berar Oomras ..	The whole of Berar excluding Yeotmal District.
3. Nimar Oomras ..	Nimar District of Central Provinces.
4. C. P. and Berar Verum.	The whole of Central Provinces and Berar.
5. *Buri (American cotton).	Burhanpur Tahsil of Nimar District.

* This sub-class to be included under “ Americans ” in the revised trade classification of Indian cottons.

APPENDIX XI.

SUBJECT 21.—*Report of the Special Sub-Committee on Wider Markets for Indian Cottons.*

The Sub-Committee met at 11 a.m. on the 1st March 1937.

The President made a brief report on his meeting with the Lancashire Indian Cotton Committee at Manchester on the 18th November 1936 and on the various points which had been discussed. The Sub-Committee recommends that the East India Cotton Association and the Karachi Cotton Association should be requested to bring to the notice of their members the fact that some Lancashire Millowners have experienced difficulties due to paint on the uncovered ends of some bales of Indian cotton finding its way into the yarn. This and several other points of detail have already been brought to the notice of interested shippers but a general recommendation that marks should only be placed on end pieces and not on the bare cotton is desirable.

The President explained further the steps which the Lancashire Cotton Committee were taking to develop miscellaneous outlets for short staple Indian cotton. On the question of statistics of the production of yarns below 20s counts in the United Kingdom as an indication of the probable further opening for short and medium staple Indian cottons, the President pointed out that he had been informed in Manchester that it was practically impossible to make a calculation of the nature desired since the variety of "special" yarns was so great: in many of these long staple cotton is used in quite low counts to produce special effects. A substantial quantity of Egyptian cotton comber waste is also used in low counts.

A representation regarding the heavy import duty on Indian cotton in Italy was made to the Government of India in September 1936, on the recommendation of the Local Sub-Committee. The reply of the Government of India indicating the changed position brought about by the fixation of a new parity for the Italian Lira by a Royal Decree, dated the 5th October 1936, accompanied by other measures providing *inter alia* for a reduction in the import duty on raw cotton, was considered. The Sub-Committee recommends that the President should be requested to get into touch with the Commerce Department of the Government of India on the subject of the lack of facilities for the import of Indian cotton into the Continent of Europe, especially Germany and Italy, but also Belgium and France. The parity margin at present is unusually wide and specially favourable to export.

APPENDIX XII.

SUBJECT 22.—*Technological Research—Summary of Progress Report of the Director, Technological Laboratory.*

Progress Report No. 27 of the Director, Technological Laboratory, for the period from 1st June to 31st October 1936.

The present Progress Report contains an account of the work done at the Technological Laboratory during the 5 months from 1st June 1936 to 31st October 1936. As will be seen from a perusal of this report, not only was the work of the Laboratory maintained at the previous high level but an increase was registered in several directions. The work done will, as usual, be described under the following five heads:—

- I. Spinning Laboratory.
- II. Research Laboratory.
- III. Moisture Testing Section.
- IV. Publications.
- V. General.

I. *Spinning Laboratory.*

As is well-known the samples received at the Laboratory are of two kinds. The first kind comprises all those samples which are received in moderately large quantities of 10 or 20 lbs. and on which a spinning test is required in addition to the fibre tests. The second kind includes only those samples which are in an early stage of experimentation and of which small quantities weighing from $\frac{1}{2}$ lb. to 2 lbs. are available on which only fibre tests are performed.

The following classified table gives the number of samples received for tests during the period under review together with the figures for the corresponding period of last year which have been included for purposes of comparison :—

TABLE I.

				1st June 1936 to 31st October 1936.	1st June 1935 to 31st October 1935.
Agricultural Department..	..	..	..	42	73
Standard cottons ..	..	..	..	..	..
Trade samples ..	..	..	..	31	18
Fibre test samples ..	..	..	..	83	41
Yarn test samples ..	..	..	..	34	5
Special test samples ..	..	..	..	2	28
				192	165

It will be seen that while the number of samples received from the Agricultural Departments shows a decrease as compared with last year, the number of samples received for fibre and yarn tests and those tested for trade purposes show a very remarkable increase. The trade samples show an increase of over 70 per cent., the number of samples received for fibre tests doubled itself during the period under review, while the number of samples received for yarn tests shows a seven-fold increase. The samples on which yarn tests are carried out are usually supplied by the mills and the tests are made on payment of certain fees laid down by the Committee. A seven-fold increase in this number is the strongest possible indication of the recognition of the work of the Laboratory by the industry which is taking advantage of the special facilities afforded by it to an ever increasing extent every year. The large increase in the number of samples received for fibre tests is again partly due to the fact that several mills now send samples of their mixings for tests to the Laboratory and partly to the fact this year the East India Cotton Association sent a large number of samples owing to certain abnormal conditions prevailing in the market in which the Laboratory's help was regarded desirable. The number of samples received for special tests shows a decrease as compared with the corresponding period of last year which is mainly due to the fact that the testing facilities of the Laboratory were fully taken up by the other samples which recorded such a substantial increase over the corresponding period of last year. The total number of samples of all descriptions received for tests during the period under review shows an increase of 16 per cent. over the figure for the corresponding period of last year.

The number and distribution of samples, lots and counts spun during the period under review are given in the following table which also contains the figures for the corresponding period of last year for purposes of comparison :—

TABLE II.

	Samples.		Lots.		Counts.	
	1st June 1936 to 31st October 1936.	1st June 1935 to 31st October 1935.	1st June 1936 to 31st October 1936.	1st June 1935 to 31st October 1935.	1st June 1936 to 31st October 1936.	1st June 1935 to 31st October 1935.
Bombay ..	64	42	66	42	205	126
Punjab ..	..	35	..	35	..	111
United Provinces ..	..	..	..	..	..	..
Madras ..	31	31	31	31	89	93
Central Provinces ..	5	5	5	5	15	15
Miscellaneous ..	41	5	41	5	128	15
Total ..	141	118	143	118	437	360
Standard ..	..	7	..	14	..	82
Trade tests ..	27	33	27	33	80	88
Technological tests.	36	31	51	49	173	194
Grand Total ..	204	189	221	214	690	724

It will be seen that the number of samples tested during the period under review shows an increase of nearly 8 per cent. over that for the corresponding period of last year, while the number of lots into which these samples having been spun also shows a small increase. The number of counts shows a very small decrease which was necessitated owing to the high pressure of work upon the spinning plant of the Laboratory as a result of which the number of lots and counts had to be kept as low as possible.

The samples on which tests are performed at the Laboratory are the subject of spinning tests, fibre test and yarn test reports which are sent to the suppliers of the samples. During the period under review the number of reports of each kind issued from the Laboratory are given in the following table, which also contains the figures for the corresponding period of last year for purposes of comparison :—

TABLE III.

	1st June 1936 to 31st October 1936.	1st June 1935 to 31st October 1935.
Spinning Test Reports	77	57
Fibre Test Reports	34	6
Yarn Test Reports	5	4
	116	67

It will be seen that there is an increase of 33 per cent. in the number of spinning test reports while the number of fibre test reports is more than 5 times as compared with the corresponding period of last year. Taking reports of all kinds, the period under review registered an increase of over 70 per cent. as compared with the corresponding period of last year. The total number of reports issued from the Laboratory during the period under review, which was known in old days as "slack season" reached the high figure of 116.

These reports dealt mostly with the tests of routine nature on samples supplied by officers of the Agricultural Departments or by mills and firms. Among them, however, there were certain samples which are of special interest and to which a brief reference will now be made.

A. Agricultural Samples.

1. *Effect of differential irrigation on the quality of cotton.*—These tests have now been in progress for some time past and at the meeting of the Technological Research Sub-Committee held on the 3rd February 1935 the results of tests carried out on samples received from Lyallpur, Coimbatore and Sakrand were presented in a consolidated report by the writer. During the period under review 9 samples of P. A. 4F from Lyallpur and 3 samples each of 289F-1 and 4F-98 from Sakrand were also received for these tests. These were subjected to the usual spinning and fibre tests.

2. *Sowing date experiments in Bellary.*—Three samples of Cambodia Co. 2, sown on 1st July, 1st August and 1st September, were received from the Superintendent, Dry Farming Station, Bellary. Since the results of the tests carried out on these samples conflicted with those of an earlier test, a recommendation was made in the spinning test report that samples of this cotton should be grown in replicated plots in two places so that definite conclusions regarding the effect of early and late sowing may be drawn.

3. *Effect of passage of kapas in a porcupine opener before ginning.*—Three samples of Camodia Strain 1267 were received from the Cotton Specialist, Coimbatore. One of them was a control sample, while the *kapas* of the second had been passed once through the opener of a Porcupine type and the *kapas* of the third had been passed twice through the same opener before ginning. The spinning tests carried out on these samples showed that differences in yarn strength between the three samples were within the sampling error and that the only noteworthy advantage of giving the pre-opening treatment to the *kapas* before ginning was to reduce the blow-room loss of the lint obtained therefrom by about 1 per cent.

4. *Bijapur-Kumpla samples.*—The produce of certain villages, namely, Honwad, Babanagar, Bijaragi and Kanamadi was not allowed to be sold in the Athani market in the Dharwar-Kumpla area, and could only be sold in the Bijapur market though the latter is situated at a greater distance. This market, furthermore, is noted for short-staple cottons as compared with the Athani market and therefore the villagers complained that adequate prices were not offered for their cottons in the Bijapur market. They

approached the Department of Agriculture, Bombay Presidency, for license to sell their produce in the Athani market. Accordingly, samples of cotton grown in these villages were received at the Laboratory and subjected to the necessary tests. The results of these tests were communicated to the Department of Agriculture, Bombay Presidency, for necessary action in the matter.

5. *Bengal 289F cotton*.—It was mentioned in my last Progress Report that a sample of 289F cotton grown at Dacca from the seed obtained from the Punjab was tested at the Laboratory in 1935 and was found to compare very favourably with the 289F grown in the Punjab. During the period under review another sample of the same cotton grown in Bankura in Eastern Bengal was received. The results showed it to be inferior to the sample from Dacca.

6. *Cottons from the North-West Frontier Province*.—During the period under review two cottons were received from this Province for the first time. Both were found to be suitable for spinning up to 11's standard warp counts.

7. *Podupatty cotton from Malabar*.—Another example of the extension of the area from which the cottons are being sent for tests to the Laboratory was afforded by a sample of cotton received from Malabar for the first time. The spinning tests carried out on this sample showed it to be suitable for spinning up to 11's standard warp counts.

B. Standard Cottons.

As in the past, detailed tests were made on standard Indian cottons and the results obtained therefrom were compiled and published, during the period under review, as a bulletin entitled "Technological Reports on Standard Indian Cottons, 1936". In view of the fact that many of these cottons are now grown on a commercial scale the results for those cottons which are received at the Laboratory fairly early in the season were as usual published in the form of 4-page Technological Circulars and freely distributed to the trade.

C. Trade samples and samples from Cotton mills.

In accordance with the policy of the Committee the Laboratory continued to offer facilities for tests to Cotton mills and firms provided these did not interfere with the normal work of the Laboratory. During the period under review 22 samples were received for yarn tests, 16 for fibre tests, one for spinning test, one for Shirley Analyser test and 2 for blow-room tests. These numbers show a very satisfactory increase over the figures for the corresponding period of last year and afford a gratifying proof of the general recognition of the work done at the Laboratory. During the period under review 16 samples of yarns were received from a mill. These yarns were spun from the same cotton with a view to ascertaining the influence of raising the middle roller, the weight of the top middle roller and the weight of the top back roller on the quality of the yarn. As it was thought that the results of tests carried out on these yarns would prove of general interest, they were published with permission of the mill concerned in the form of a Technological Bulletin.

The Indian Central Cotton Committee has entered into arrangement with the East India Cotton Association and the Bombay and Ahmedabad Millowners' Associations of Bombay and Ahmedabad to carry out tests at the Laboratory on samples of fair average quality of certain types which are largely used by the Indian mills and of early arrivals in the season. During the period under review these tests were made on 26 samples which were received from the three trade organisations, and the results obtained were published in the form of 2-3 page technological circulars which were distributed freely among the trade. Finally, as in the previous year, these technological circulars were compiled in a bulletin called "The Technological Reports on Trade Varieties of Indian Cottons, 1936".

D. Technological Samples.

1. *Effect of storage of seed-cotton prior to ginning*.—In accordance with recommendation of the Technological Research Sub-Committee two samples each of 289F, 4F and Mollisoni from the Punjab and Wagad 8 from Gujarat were obtained. In each case one sample was obtained from the *kapas* which was ginned soon after picking allowing only sufficient time for it to dry, while the other sample was obtained from the other half of the *kapas* which was ginned after three months storage. Arrangements were also made to keep a continuous record of the temperature and humidity prevailing during the storage of the *kapas* and also at the time of ginning it. The spinning and fibre tests on these samples have been completed and a report will be written up as soon as possible.

2. *Limit spinning tests.*—The Laboratory has already performed some tests with a view to ascertaining the influence of twist on the strength and appearance of yarns. Recently these tests have been further extended by spinning a number of cottons covering a fairly wide range of staple length with different twists and a report containing the results is being placed for discussion at the Conference of Scientific Research Workers on Cotton.

3. *Tests on mixtures of Indian cottons and staple fibre.*—In view of the fact that several of the progressive Indian mills would be utilising staple fibre for mixing with Indian cottons, the President suggested that some tests may be undertaken at the Laboratory with a view to finding out how the different staple fibres behaved in mixings with the different styles of Indian cottons. Accordingly, three types of staple fibres were obtained, mixed with Cambodia Co. 2, and Jayawant in different proportion and the mixtures were spun into suitable counts. The results of tests on these samples are now complete and will soon be published as a Technological Bulletin.

4. *Combing of Indian cottons.*—As a logical outcome of an earlier invention it was felt that it would be desirable to undertake another investigation in which the porportion of combing waste should be reduced to a minimum to study in particular the effect of parallelisation of the fibres. Accordingly, four cottons, namely, P.A. 289F, Jayawant, Surat 1027 A.L.F., and Cambodia Co. 2 were selected for these tests and were combed. The spinning, fibre and yarn tests on these samples are in progress.

5. *The effect of humidity on card loss.*—The Laboratory is maintained during the dry season at relative humidity of 60 to 65 per cent. During the monsoon, however, the humidity frequently rises to a much higher value than this and there are no means available for bringing it down. It therefore becomes necessary to know what correction, if any, should be applied to the results in order to make them comparable to one another. Accordingly, three cottons representing a short, a medium and a long staple variety were selected, one lot of each cotton was spun during the dry season while the other was spun during the monsoon. The blow-room loss, the-card-room loss and the spinning behaviour of each lot was carefully noted and the yarn tested for strength, etc. These tests gave some very interesting results which it is proposed to publish in the form of a brief technological leaflet.

6. *Effect of storage of lint on its quality.*—During the period under review samples in small experimental bales were received from Lyallpur with a view to ascertaining the effect of storage, over a comparatively long period, on the quality of Punjab-American 4F and Mollisoni. These will be tested in due course but two points are worth noting in this connection. In the first place, in addition to a change in quality, a certain amount of deterioration in colour may take place on storage. This can be subjectively estimated by the eye, but a better method would be to measure it by a colorimeter. The latter apparatus, however, is not available at the Laboratory. In the second place, the bales are small experimental ones, and therefore the conditions prevailing inside them are not identical with those prevailing inside the full size cotton bales.

7. *Optimum drafts on fly frames.*—As a corollary of an earlier investigation another investigation has been undertaken in order to find out the best scheme of drafts in the fly frames and the ring frame for a Cotton of 20's class. A sample weighing 100 lbs. was passed through the blow room, and, in addition to the normal scheme of draft followed at the Laboratory, 14 different schemes of drafts have been tried with duplicate spinning in each case. These tests are in progress.

8. *Blow-room efficiency tests.*—An investigation has been undertaken with the object of finding out the efficiency of cleaning of different machines in the blow-room of the Laboratory and their combinations ranging from a mild to a rigorous treatment. For this purpose two cottons representing a medium-dirty and a dirty cotton were given 6 different blow-room treatments in addition to the normal treatment while the scutcher lap, formed in each case was examined for the residual trash left in it. These tests are in progress.

II. Research Laboratory.

Fibre Testing Section.—This Section has been fully occupied in carrying out tests for determination of the fibre-properties either on samples on which spinning tests were also made or on those which were supplied to the Laboratory for fibre tests only. During the period under review the number of samples on which fibre tests of various descriptions were carried out amounted to 308. Among the samples which were supplied for fibre tests only mention may be made of 52 samples, which were received from the Appeal Committee of the East India Cotton Association as an illustration of the timely assistance rendered by the Laboratory to such bodies as the East India Cotton Association and the Millowners' Association.

Mr. N. Hari Rao in addition to supervising the work of this Section, which was particularly heavy during the period under review, continued with his investigation on the effect of twist on the strength and extension of cotton fibre by writing up an account of it which will soon be sent up for publication. Mr. Hari Rao has commenced, in the meantime, a systematic study of those cottons for which a striking discrepancy has been noticed between their fibre-properties and spinning performance. It is proposed to extend this study to about 20 cottons in the first instance.

Physics Section.—Mr. R. S. Koshal continued his analysis on the effect of distribution of rainfall and temperature on the fibre-properties and spinning quality of cotton. In addition to the cottons which he has already analysed and of which an account was given in my last Progress Report, Mr. Koshal completed the analysis of Surat 1027 A.L.F. Jayawant and Wagad 8 and partially completed the analysis of Gadag 1.

The results of the analysis so far available are, being placed for discussion before the First Conference of Scientific Research Workers on Cotton.

Mr. C. Nanjundayya continued his investigation on the relationship between the fibre-properties and the breaking strength and elastic properties of yarn. During the period under review he completed this investigation on the yarns spun from P.A. 4F cotton and continued it on the yarns obtained from Jayawant cotton. It is proposed to extend this investigation to at least two other cottons before an attempt will be made to correlate the various factors.

Dr. K. R. Sen continued his investigation on the part played by fibre properties in determining the mixing quality of cottons.

The cottons which have been examined for fibre properties in great detail have been spun in suitable mixtures and the strength, evenness and neppiness of their yarns are being determined. This investigation is in progress as the spinning of mixtures of Cambodia and Kampala with other cottons had to be postponed owing to the high humidity prevailing in the spinning room during the monsoon.

Microscopy Section.—Mr. A. N. Gulati continued with his investigation on the effect of heredity, environment, irrigation, manurial treatment and rainfall on the degree of maturity of cotton fibre. For this purpose 120 samples grown with different manurial and irrigation treatments and with different dates of sowing, etc. have been obtained from the Institute of Plant Industry, Indore, and the determination of fibre maturity, employing the technique evolved at the Laboratory, is being carried out on these samples.

Chemistry Section.—Mr. D. L. Sen returned from study leave on the 15th September 1936 and was put on the work of dye absorption along with Mr. G. Rama Rao to which a reference is made below :

The erection and calibration of the colorimeter designed at the Laboratory having been completed, Mr. G. Rama Rao with the collaboration of Mr. D. L. Sen continued with the investigation on the absorption of dyes by Indian cottons. The absorption of two dyes after different pre-treatments was studied in great detail for samples of Punjab-American and Mollisoni obtained from different parts of the Punjab with a view to finding out whether maximum possible difference in the dye absorption could serve as a means for ascertaining the amount of each present in a mixture. Messrs. Rama Rao and Sen are now continuing the study of absorption of other dyes by a number of Indian cottons. In each case the absorption is being measured with (1) an untreated sample, (2) a soda boiled sample, (3) a kier boiled sample, and (4) a bleached sample. This work is in progress.

Dr. Lavji Thoria.—During the period under review Dr. Lavji Thoria completed his work at the Laboratory and was deputed to work the Industrial Research and information Bureau to find out the costs of the various processes employed in the manufacture of artificial silk.

Mr. M. U. Parmar continued with his investigation on the effect of kier boil treatment on the strength and elasticity of yarns spun from different cottons. The yarns for the purpose of this investigation are spun at the Laboratory and are sent to the Department of Chemical Technology, University of Bombay, where the different kier boil treatments are given to them after which they are returned to the Laboratory for further tests. In addition to measuring the lea and single-thread strength of these yarns Mr. Parmar measures the fluidity of the cuprammonium solutions prepared from each yarn samples in order to find out whether, and to what extent, chemical degradation took place during the kier boil treatment. This investigation is in progress.

III. Moisture Testing Section.

In the absence of Mr. D. L. Sen on study leave Mr. P. S. Sambamurthi discharged the duties connected with this Section. The period under review, however, proved to be slack, as only one Appeal Committee sample was tested, bringing the total number of samples tested in this Section to 771.

IV. Publications.

During the period under review the following Technological Bulletins and 23 Circulars were issued :—

1. Technological Bulletin, Series A, No. 33, "Technological Reports on Standard Indian Cottons, 1936" by Nazir Ahmad, M.Sc., Ph.D., F.Inst.P.
2. Technological Bulletin, Series A, No. 34, "The Effect of raising the middle roller and some other factors on the yarn strength of Sind Cotton" by Nazir Ahmad, M.Sc., Ph.D., F.Inst.P.
3. Technological Bulletin, Series B, No. 21, "A new method and apparatus for determining the average length and fineness of cotton hairs" by Nazir Ahmad, M.Sc., Ph.D., F.Inst.P., and C. Nanjundayya, M.Sc.

V. General.

Visitors.—The Honourable Chowdhry Sir Mohammad Zafrullah Khan, Kt., Member of the Viceroy's Executive Council in charge of the Departments of Commerce and Railways, visited the Laboratory on the 23rd July 1936. He spent nearly an hour and a half in going round the various sections of the Laboratory and on the completion of his visit was pleased to signify his appreciation of the work seen by him.

The East India Cotton Association has been sending samples of cotton to the Laboratory for fibre tests to assist their Appeal and Standards Sub-Committees either in laying down standards of length or arriving at a decision in doubtful cases of appeal. It was suggested that if the members of these Sub-Committees saw the working of the Laboratory methods employed in determining fibre-properties it would help them materially in visualising them and interpreting their results. This suggestion was welcomed by the writer and a party of over 30 members of the Association visited the Laboratory on 7th October 1936 at 10-30 a.m. The writer first explained to the visitors the principles of the methods in vogue at the Laboratory and then took them round and showed them the various tests and investigations in progress. The visit lasted till 12-30 p.m.

Equipment.—During the period under review the following apparatus were added to the equipment of the Laboratory :—

1. Bansch and Lomb's Euscope with adjustable microscope lamp.
2. One Protractor Eyepiece with adapter.
3. Dr. Saxl's Yarn Evenness Tester.

Staff.—The writer proceeded on short leave for 22 days from 22nd August 1936 during which period Mr. R. P. Richardson, Spinning Master, officiated as Director in addition to discharging the duties of his own office.

Mr. D. L. Sen, Senior Research Assistant, who was granted study leave out of India, returned to duty on the 15th September 1936.

Mr. V. Venkataraman, Statistician and Personal Assistant, returned to duty on the 13th June 1936 from leave on medical certificate.

Mr. A. N. Gulati, Microscopist, returned to duty on the 2nd July 1936 from leave on medical certificate.

Dr. Lavji Thoria, temporary Chemist, was granted leave from 28th September to 20th October 1936.

Acknowledgments.

My thanks are due to the members of the staff, both technical and clerical, of the Laboratory who continued to give me their loyal support during the period under review and whose co-operation made possible the work described in this report.

N. AHMAD,

Director.

Dated the 8th February 1937.

Technological Laboratory.

APPENDIX XIII.

SUBJECT 23.—*Technological Research—Report of the Technological Research Sub-Committee as amended by the Committee.*

The Technological Research Sub-Committee met at 3 p.m. on Saturday, the 27th February 1937.

The Progress Report of the Director for the five months, June to October 1936, was considered. The total number of samples received for tests during the period was 192 as compared with 165 during the corresponding period of the previous year showing an increase of 16 per cent., 204 samples divided into 221 lots were spun into 690 counts during this period as against 189 samples divided into 214 lots spun into 724 counts during the corresponding period of the previous year. Seventy-seven spinning test reports, 24 fibre test reports and 5 yarn test reports were issued during the period under report, the comparable figures for the previous year being 57, 6 and 4 respectively, the total number of reports showing an increase of 60 per cent.

In accordance with a previous recommendation of the Sub-Committee tests have been carried out on samples from Lyallpur, Coimbatore, Sakrand and Indore with a view to ascertaining the influence of differential irrigation on the fibre properties and spinning quality of cotton. It was decided to publish the results of these tests together with the field behaviour of the samples contributed by the cotton breeders at the above stations in the Indian Journal of Agricultural Science, but as the cotton breeders in question had not submitted their contributions, the Sub-Committee decided to bring the matter to the notice of the Agricultural Research Sub-Committee.

The Sub-Committee recommended the purchase of a variable speed electric motor for a ring frame at the Laboratory, which is at present driven from the main shaft.

In connection with the combing of Indian cottons, the Sub-Committee recommended that the combor wastes of the four cottons, viz., Punjab-American 289-F, Jayawant, Surat 1027 A. L. F. and Cambodia Co. 2, should be mixed with suitable short staple cottons and their spinning capacity should be found.

The Report of the Director, Technological Laboratory, was approved.

The attached Revised Estimates for 1936-37 and Budget for 1937-38 of the Technological Laboratory were approved.

The scheme for work on ginning problems put up by the Director, Technological Laboratory, was approved with the addition of Verum 434 and Punjab-American 289F among the cottons to be tested and the appointment of a fitter up to Rs. 75 per mensem for six months was recommended.

The Report of the Director, Technological Laboratory, on the work done at the Conference of Technological Assistants was considered and approved, and it was recommended that copies of these reports should be supplied to Cotton Breeders in future.

The programme of work and progress reports of the two research students undergoing training at the Technological Laboratory were considered and approved.

The attached letter from Mr. S. D. Saklatvala containing the views of the Bombay Millowners' Association on the subject of the establishment of closer contact between the Technological Laboratory and the mills was considered. The decisions of the Sub-Committee on the proposals made are as follows:—

(a) The Sub-Committee agrees that cotton mills in India may be supplied with four copies of each trade test bulletin published by the Laboratory. The additional expenditure entailed by the acceptance of this suggestion should be borne by the Committee. It was also decided that enquiry should be made of the Government of India and of local Governments as to whether they require as many copies of Technological publications as they receive at present.

(b) The Sub-Committee approves of the suggestion that some of the more technical details and theoretical considerations may be omitted from the bulletins dealing with trade tests.

(c) The suggestion that the first page of Technological Bulletin should be utilised for inviting the views of the recipients and requesting them to supply the results of similar investigations carried out by them was accepted.

(d) The proposal that technical associations might be invited to discuss the subject matter of bulletins and submit their views and suggestions on them was agreed to.

(c) The suggestion for holding meetings between the experts of the Technological Laboratory and practical spinners and carders in order to discuss bulletins of special importance with the object of eliciting suggestions regarding future tests, was approved.

In regard to the proposal for the appointment of a *Liaison* Officer, the Sub-Committee decided to take up this question after giving a trial to the above proposals for about a year and to inform the Bombay Millowners' Association in the meanwhile that the appointment of *Liaison* Officer would be made as soon as sufficient experience was gained on the other suggestions.

As regards the proposal for the establishment of a Testing House to undertake tests similar to those conducted by the Chamber of Commerce Testing House at Manchester, the Sub-Committee decided that Mr. Saklatvala should be requested to arrange for a small Sub-Committee consisting of the representatives of the Bombay and Ahmedabad Millowners' Associations and to put up definite proposals in consultation with them.

The suggestion for reducing the fees for tests undertaken at the Laboratory was referred to a Special Sub-Committee consisting of Messrs. Saklatvala, Kasturbhai Lalbhai and the Director, Technological Laboratory, the Sub-Committee to submit its report to the Technological Research Sub-Committee at its next meeting.

The suggestion of reducing one Physicist at the Technological Laboratory was reconsidered by the Sub-Committee, and it was decided that no reduction should be effected as the services of the Physicist would be required in connection with the scheme for the dissemination of technical information put up by the Director, Technological Laboratory.

APPENDIX XIV.

SUBJECT 24.—*Report of the Research Students Selection Sub-Committee.*

In accordance with one of the recommendations of the Special Sub-Committee which reported on the Committee's Research Scholarship Scheme in 1929, circular letters were sent to Directors of Agriculture, Bombay, Madras, Punjab, United Provinces, Central Provinces, Bengal, the Chief Agricultural Officer in Sind, the Director, Institute of Plant Industry, Indore, and the Director, Technological Research Laboratory, enquiring whether they needed research students and, if so, in what branches of agricultural science either in the Committee's schemes or in Provincial Departments of Agriculture there would be probable future openings for research students on completion of their training. The replies indicated that no openings were anticipated for research students on completion of their training. No Research Studentships under the Committee are accordingly being awarded this year.

The Institute of Plant Industry, Indore, however, desired to award two Research Studentships in Genetics and Plant Breeding, tenable at the Institute. At its meeting in August last the Committee agreed to bear the charge on account of Research Studentships at the Institute and decided that, in future, the Director might appoint students subject to confirmation by the Research Students Selection Sub-Committee of the Indian Central Cotton Committee.

The Board of Governors of the Institute of Plant Industry, at their meeting held on 20th November 1936, however, instructed the Director to invite applications by advertisement for the two Research Studentships, to select the most likely candidates from the applicants in consultation with the Geneticist and Botanist, and to forward their applications for the consideration of the Research Students Selection Sub-Committee.

The Director, Institute of Plant Industry, Indore, accordingly invited applications for the two studentships, and out of 23 applications received selected the applications of five candidates for the consideration of the Research Students Selection Sub-Committee. All the five candidates who were called for interview attended and the Sub-Committee selected, after careful consideration, Messrs. D. Ganesan and Maya Prakash Singh, who is now undergoing training at Indore in cotton botany as a voluntary scholar.

Mr. Maya Prakash Singh has, however, been offered the appointment of Cotton Research Officer, Rangamati, in the Bengal Comilla Cotton Breeding Scheme and if he accepts the appointment, the Sub-Committee does not propose to fill this vacancy.

APPENDIX XV.

SUBJECT 25.—*Report of the Special Sub-Committee on the Policy to be adopted by the Committee regarding the apportionment of the cost of schemes during extension periods.*

(As finally amended by the Indian Central Cotton Committee.)

In view of the gradual depletion of its reserves owing to its annual expenditure exceeding its income, the Committee at its meeting in February 1935 accepted the view expressed by the Agricultural Research Sub-Committee that Provincial Governments should accept increasing responsibility for such of the schemes financed by it as at the end of their sanctioned period were found to have produced results of definite value in order that the Committee might retain its ability to finance new schemes. The question of apportioning the cost of renewal schemes between Local Governments and States and the Committee on a percentage basis was accordingly taken up by the Committee at its meeting in January 1936, but in view of the importance of the subject, its consideration was postponed to the last meeting of the Committee, when again no decision could be arrived at, but a Special Sub-Committee consisting of the heads of the Agricultural Department and members of the Standing Finance Sub-Committee was appointed to consider the subject both from the agricultural and financial aspects and to make recommendations. This Special Sub-Committee met at the Committee's office on the 26th February. The views expressed by the representatives of the Local Governments, Indian States, growers and the trade are given below.

The Madras Government do not take objection to the Committee asking Local Governments concerned to make a contribution towards the cost of extension of schemes which were found to have produced definite results at the end of their sanctioned periods. They presume, however, that in other cases the Committee would continue to finance the schemes wholly from its funds during any period of extension that may be found necessary. But whether the Government would make a contribution towards the cost of extension of any scheme would depend on the condition of Provincial finance at the time the extension is proposed, the merit of each individual scheme and the voting of the necessary funds by the Legislative Council.

The Bombay Government are opposed to any conditions being attached to the grants made by the Committee towards schemes either for the first sanctioned period of such schemes or for renewals. They are of opinion that the Committee should concentrate more on research schemes of all-India or intra-provincial importance. The Local Government would be willing, however, to reconsider their views in the light of the decisions arrived at by the Committee.

The Punjab Government are not in favour of seed schemes being financed by the Committee as they consider that such work is part of the normal duties of Agricultural Departments. They are also of opinion, in so far as research schemes are concerned, that Local Governments should bear a share of the cost of such schemes after they had been in operation for a certain number of years. The Punjab Government have already given practical effect to their views.

The Central Provinces Government are of opinion that a distinction should be drawn between research and seed distribution schemes; so far as research schemes are concerned the Committee should bear all expenditure from the start to their termination but in regard to seed, marketing and propaganda schemes the Local Government should be asked to bear a share.

The Director of Agriculture, United Provinces, is in favour of dividing the schemes of the Committee into (1) Research, (2) Seed Distribution and (3) Demonstration and Propaganda schemes. All schemes should be financed in full by the Committee for a period of five years in the first instance. Renewals for the next five years should also be financed in full by the Committee in the case of breeding and other research schemes. Expenditure on further renewals should be met on a 50 : 50 basis between the Committee and the Local Government. The cost of seed distribution, demonstration and propaganda schemes should be borne by the Committee until any selected variety of cotton which it is intended to spread has been standardised in the particular locality. After this has been effected, the Committee need not finance the scheme any longer. If a new variety replaces an old one, its introduction should be regarded as a new scheme. The nucleus of improved varieties should be maintained by the Committee as a part of the breeding scheme.

Baroda.—The Government of Baroda supports the view of the Central Provinces Government. Research Schemes should be financed wholly by the Committee. Seed distribution schemes are considered to be as important as research schemes and their

cost for the first five years should be met by the Committee. For subsequent years the Local Governments might be asked to bear a share.

It was pointed out that with an income of about Rs. 7½ lakhs and reserves standing at Rs. 23 lakhs and the necessity of maintaining a reserve of Rs. 9 lakhs, it would not be long before the available funds are completely exhausted; unless the policy of the Committee was revised, new work would not be undertaken.

The trade members of the Committee expressed the view that it was undesirable to discontinue or restrict the financing of seed distribution schemes. For example, seed schemes in Gujerat and the Central Provinces had fully demonstrated their usefulness to the cultivator and mill industry and, therefore, consideration should be shown to such schemes; expenditure on staff should be confined to the out-of-pocket expenses only of a Local Government.

On behalf of the cultivators it was urged that seed schemes were necessary and that the Committee should see that such work was carried out properly. Where owing to financial stringency the Local Government could not provide for this kind of work it should not be left out but should be financed by the Committee. One of the trade members disagreed with this view and was of opinion that the view expressed by the Punjab Government representative was the correct one.

The conclusions of the Sub-Committee are as follows :—

Expenditure on seed schemes should be divided into (1) cost of staff and (2) incidental charges on the distribution of seed of approved varieties less receipts if any. The Committee should pay *either* the cost of staff or the incidental expenditure but not both. Seed schemes should be sanctioned for periods not exceeding five years in the first instance and they may be extended subsequently for a further period of five years on the condition that (a) the Committee's share of the expenditure in the second period should be to the extent of 75 per cent. either on the pay of the staff or incidental expenditure and (b) that the Local Government concerned contributes not less than the sum spent during the original period of the scheme. It is not necessary that the grant for the renewal period should be less than for the first sanctioned period, but the Committee's contribution should not exceed 75 per cent. The maintenance of a nucleus of each approved variety for seed propagation should be undertaken by the Cotton Breeder as part of the breeding scheme and should be financed by the Indian Central Cotton Committee and an area of one acre for the purpose is considered to be the irreducible minimum for each variety. The Committee should meet the cost of the maintenance of a nucleus of seed from all varieties of cotton, the spread of which had been approved by it. The Sub-Committee agreed that in Seed Distribution Schemes when a change in the variety under distribution was made and approved by the Indian Central Cotton Committee further continuance of the scheme should be treated as a new seed distribution scheme and not as a renewal of the original scheme. Research Schemes should be financed up to a period of ten years in full, subject to review at the end of 3rd, 5th and 8th year as at present. To justify further financial help after ten years special technical or scientific reasons are necessary. This is all the more necessary if the Committee's share is to exceed 50 per cent. of the total expenditure to which it should normally be limited. It was agreed that any scheme affected in the immediate future should be fully financed by the Committee for one full year more to enable the Director of Agriculture concerned to obtain the necessary finance from his Government for the subsequent years.

APPENDIX XVI.

SUBJECT 34.—*Report of the Agricultural Research Sub-Committee (as approved by the Indian Central Cotton Committee).*

The Agricultural Research Sub-Committee met at 3 p.m. on Friday, the 26th February 1937, and divided itself into the following Sectional Sub-Committees for detailed examination and report on the subjects noted against each :—

SECTIONAL SUB-COMMITTEE I.

Personnel :—

The President,
P. B. Richards, Esq.,
H. R. Stewart, Esq.,
D. N. Mahta, Esq.,
Dr. V. K. Badami, and
G. K. Lele, Esq.

SUBJECTS.

- Bikaner Bengals Cotton Improvement Scheme—Modification of programme.
30. *Research Schemes—Proposed extensions of—*
 (a) Punjab Pink and Spotted Boll-worm Scheme.
 (b) Broach Cotton Breeding Scheme—Non-acceptance by Baroda Durbar of Committee's proposal for 10 per cent. contribution.
 (c) Sind Physiological Scheme.
32. *Proposed New Research Schemes—*
 (a) Scheme for cotton Jassid investigation in the Punjab.
 Punjab Pink and Spotted Boll-worm Scheme—Proposals for preliminary work prior to clean-up campaign against the pest during 1936-37.
39. Punjab Root Rot Scheme—Proposed extension of the appointment of temporary Agricultural Assistant (Chemical).

SECTIONAL SUB-COMMITTEE II.

Personnel.

The Vice-President,
 T. R. Low, Esq.,
 K. V. Joshi, Esq.,
 K. Ramiah, Esq.,
 Chellaram Shewaram, Esq., and
 J. C. McDougall, Esq.

SUBJECTS.

33. *Proposed New Seed Distribution and Extension Schemes—*
 Scheme for the extension of "Jarila" cotton seed in Khandesh.
 Proposed deputation of an agricultural officer abroad to study cultivation, ginning and marketing of American and other long staple cottons—Letter from the Chief Agricultural Officer in Sind.
 Proposed appointment of a Technological Assistant at Parbhani.
40. Institute of Plan Industry, Indore—Supplementary grant for 1937-38.

SECTIONAL SUB-COMMITTEE III.

Personnel.

R. G. Allan, Esq.,
 W. J. Jenkins, Esq.,
 Rai Sahab Kalidas Sawhney,
 V. Ramanatha Ayyar, Esq.,
 Mohammad Afzal, Esq., and
 R. D. Mihra, Esq.

SUBJECTS.

26. Progress Report on Madras Nadam Cotton Breeding Scheme.
27. Final Report on Hyderabad Cotton Survey Scheme.
32. *Proposed New Research Schemes—*
 (b) Scheme for the improvement of Mungari cotton in the Madras Presidency.
- Research Students—*
 Progress Report of Mr. G. B. Patel.
 Progress Report of Mr. C. Jagannatha Rao and proposed extension of appointment.
 Programme of work and Progress Report of Messrs. G. Rama Rau and M. U. Parmar.
 Report on the work of Mr. Nazir Ahmad by the High Commissioner for India.
 Programme of work of Mr. Kidar Nath Trehan.
 Printing of Annual Progress Reports.

SECTIONAL SUB-COMMITTEE IV.

Personnel.

Dr. W. Burns (*Chairman*),
 Professor R. H. Dastur,
 J. B. Hutchinson, Esq., and
 Dr. M. K. Patel.

SUBJECTS.

28. Progress Report on Punjab Physiological (Cotton Failure Research) Scheme.

Punjab Physiological (Cotton Failure Research) Scheme—Proposed reversion of Professor R. H. Dastur, Plant Physiologist.

The reports submitted by the Sectional Sub-Committees were considered at the plenary sitting of the Sub-Committee on the 27th February 1937.

I. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROGRESS AND FINAL REPORTS ON SCHEMES.

Progress Report on Madras Nadam Cotton Breeding Scheme—(No. 26).—From the work to date, the Sub-Committee is of opinion that the prospects justify the continuation for the full five-year period.

Final Report on Hyderabad Cotton Survey Scheme—(No. 27).—This survey is very complete and has accomplished the object for which it was started, viz., of arriving at a detailed precise of cotton cultivation in Hyderabad State.

The report should be made available to the Special Cotton Crop Committee appointed by the Advisory Board of the Imperial Council of Agricultural Research to deal with the survey of available plant-breeding material.

The method of conducting the survey might be, with advantage, written up and published as a paper in the Indian Journal of Agricultural Science.

The report contains certain recommendations for the improvement of cotton in Hyderabad State which the Sub-Committee considered to be beyond the scope of their reference. These they suggest should be extracted and printed separately and considered fully at the next meeting of the Indian Central Cotton Committee.

The main report, summary and recommendations forming Part I might be published by the Indian Central Cotton Committee and it be suggested to the Hyderabad Government that the balance of the report being largely of local interest is worthy of publication as a departmental bulletin.

Progress Report on Punjab Physiological (Cotton Failure Research) Scheme—(No. 28).—The position previous to Professor Dastur's work was examined on the basis of the article "A Study of causes contributing to the Large Variation in Yield from year to year of 4F Cotton in the Punjab" by Mr. Trevor Trought, published in the Indian Journal of Agricultural Science, 1931, and the progress report for 1936-37 considered in detail.

(1) *Bacteria.*—These bacteria have presented some unusual characteristics. They are produced by culture of the outsides of the stem, root and seed, also from the internal parts of the root and stem but not from the embryo. They are not visible in microscopic sections of the fresh plant but are produced only on culturing portions of stem, roots or the seeds. They remain alive after treatment of the plant parts with concentrated sulphuric acid for seven minutes and with 0.1 per cent. mercuric chloride for nineteen hours. They can be cultured from alcoholic preserved material. They have not yet been identified. No experiments have been made with sterilised seed in sterilised soil since it has been so far found impossible completely to sterilise the seed. Inoculation by pricking the leaf and rubbing in cultures has produced no appearance of the disease. Dr. Patel pointed out that the bacterium could not be a plant pathogen because it was grampositive and formed spores. The Sub-Committee therefore came to the conclusion that it was unnecessary to follow up work on the bacteria.

(2) *Micro-chemical work.*—The various symptoms that accompany bad opening were gone over in detail. These are listed on page 4 of the cyclostyled report. Dr. Burns and Mr. Hutchinson found considerable difficulty in following the assumed chain of events in the bringing about of these symptoms. The effect of Professor Dastur's arguments is to make the beginning of the chain, within the plant, the accumulation of excess of organic acids. But it is exceedingly difficult to place one symptom in advance of another particularly as there has been no real time-series of experiments to elucidate this point. The

sentence at the end of paragraph 3 on page 4 of the report should therefore read as follows :—

“ But one can find plants showing these symptoms in a varying degree and the degree of bad or good opening has been found to vary according to the extent to which these symptoms develop.”

It is also difficult to state with conviction regarding the accumulation of calcium in the roots as to whether the calcium came first or the acid first. Professor Dastur thinks the acid comes first.

(3) *Soil analysis work.*—Professor Dastur is now inclined to go on to test the possibilities of differences of soil in producing the symptoms of bad opening in the plant. Dr. Burns and Mr. Hutchinson pointed out that the soil had been practically ruled out by the facts adduced by Mr. Trought with regard to occurrence of bad opening on the Lyallpur and Khanewal farms where over a series of years on the same soil there was a variation of from 2 to 14 maunds per acre between good and bad years and Mr. Trought himself very markedly stresses this point. The Sub-Committee with the exception of Professor Dastur are exceedingly doubtful of the wisdom of launching out on a long and costly programme of analysis of soils and plants unless there are some very much clearer indications showing that this is the direction where a solution of the problem may be hoped for.

(4) *Summary.*—To summarise, the following may be considered to have been established :—

- (i) that bad opening occurs in all years in some plants and even in some bolls of good plants,
- (ii) that in certain years it occurs in epidemic form over all plants of many fields,
- (iii) that in badly opened plants there is a breakdown of the chlorophyll apparatus associated with accumulations of storage in the leaves and also the occurrence of certain deposits in the phloem tissues of the root and stem. These deposits are not normally visible but appear after certain chemical treatments but they seem to have the effect of blocking the movement of nutrient material in the phloem. There does not appear to be interference with the movement of water upwards in the xylem.

(5) *Recommendations.*—This is as far as the Sub-Committee can be definite.—It is the planning of the next step that causes difficulty. The Sub-Committee suggests a very careful re-examination of the whole problem particularly taking account of all possible past and present field information and with an attempt, no matter how crude, experimentally to reproduce this disease by various methods of interfering with the nutrition of the boll either physically or chemically.

The Sub-Committee also suggests an attempt to design a series of experiments to determine in what order in time the various internal and external symptoms of bad opening occur as this might materially help to establish the present defective chain of sequence in the events that have been separately described.

Professor Dastur pointed out that the soil should not be entirely ruled out as a factor since he says there have been found in various fields patches which have produced in most years a fair amount of bad opening. Such fields offer a natural start for experiments of the type mentioned and also offer a site for the time series experiments if it is the case that bad opening can normally be expected there. The Sub-Committee did not however feel that this justifies a very large increase in the amount of expenditure on chemical work since obviously work done on a few patches would not involve the large additional amount of soil and plant analysis contemplated in the present proposals.

The Sub-Committee further recommends that the President should write to the Empire Cotton Growing Corporation with a view to obtaining the services of Dr. Mason on his way back to Trinidad from England in order to inspect the Punjab Physiological Scheme at Lyallpur and to give his views. The extra expenditure involved on this account should be met by the Committee. Pending Dr. Mason's inspection of the scheme, the Sub-Committee considered that the purchase of apparatus should be postponed.

As regards the provision of additional staff, the Sub-Committee suggests the transfer of Dr. Sheikh from the Sakrand Agricultural Station to the post of Soil Assistant in the Punjab Physiological Scheme. The appointment of a temporary Research Assistant (Chemical) in the grade of Rs. 150—10—160 was approved. The provision on account of travelling allowance was reduced from Rs. 3,000 to Rs. 2,000. The other items of expenditure as mentioned in the proposals put up by the Director of Agriculture were approved.

The Sub-Committee considered a request from Professor Dastur for reversion to his appointment in Bombay for reasons of health or for suitable arrangements to be made to enable him to discharge his duties satisfactorily. The Sub-Committee decided that Professor Dastur's services should be retained for one year more on the same conditions till Dr. Mason had examined the scheme and reported on it and that in the meanwhile he should be permitted, if necessary, to remain in Bombay instead of in Lahore for a part of the year and carry on his laboratory work.

*Final Report on the United Provinces Pink and Spotted Boll-worm Scheme—(No. 29).—*The Sub-Committee suggests that the President should be requested to address the United Provinces Government suggesting that on the return of Mr. Ritchie from leave the Assistant Entomologist might be permitted to continue to carry on the duties of the Entomologist so that Mr. Richards might be relieved to complete the report on the scheme.

II.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROPOSED EXTENSIONS OF RESEARCH SCHEMES.

*Punjab Pink and Spotted Boll-worm Scheme—[No. 30 (a)].—*The Sub-Committee recommended that the investigation portion of the scheme should be extended for a period of one year. It was of the opinion that the writing up work in connection with both the pink and spotted boll-worm should be completed within this period. For this purpose the Sub-Committee thought that if the Assistant Entomologist were provided with one Assistant and a clerk it should suffice.

The Sub-Committee also approved of the clean-up campaign for a period of two years. It recommended, also, that the remaining three Field Assistants at present engaged on the Punjab Pink and Spotted Boll-worm Scheme be transferred to this Scheme, that the number of supervisors should be reduced to three and not more than 40 fieldmen should be employed until a report on the working of the scheme has been submitted to the Committee at a subsequent meeting, when any increase, if necessary, might be considered. The Sub-Committee was of the opinion that the number of plant pullers should be 4,000 instead of 2,000 for the 1st year with a provision of Rs. 2,000 in the 2nd year. It did not, however, consider it advisable to give prizes to villagers for doing clean-up work and, therefore, recommended the dropping out of item (5) from page 7 of the proposals. The Sub-Committee also felt that Rs. 15,000 under "Emergency Reserve" (item 7) was too high and should be reduced to Rs. 10,000 per year and that it might be utilized on the purchase of cotton for experimental purposes.

The Sub-Committee further recommended that the increment proposed for Mr. M. Haroon Khan, the Assistant Entomologist in charge of the scheme, should be reduced from Rs. 30 to Rs. 15 per annum in order to bring it in line with the rate of increment sanctioned for Class II Punjab Agricultural Service with which his post corresponded.

With regard to item (3) in the programme, the Sub-Committee recommended that the Entomologist should draw up the lay-out in consultation with the Statistician of the Imperial Council of Agricultural Research and put up the same for the information of the Committee at its next meeting.

*Broach Cotton Breeding Scheme—Non-acceptance by Baroda Durbar of Committee's proposal for 10 per cent. contribution—[No. 30 (b)].—*The Sub-Committee recommended that the scheme should be sanctioned on its present basis but that the breeding work in reference to items 3, 8 and 10 in the programme should be limited to the capacity of staff available.

*Sind Physiological Scheme—[No. 30 (c)].—*The Sub-Committee recommended the acceptance of the proposal for the extension of the Sind Physiological Scheme for the short period of three months, from the 1st April to 30th June 1937, subject to the condition that if the Statistical Assistant is not available, the Physiological Assistant should be appointed in his place.

III.—REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW AGRICULTURAL RESEARCH SCHEMES.

*Scheme for cotton jassid investigation in the Punjab [No. 32 (a)].—*The Sub-Committee considers that this is not an entomological scheme but a piece of work to be done under the Cotton Research Botanist, Punjab. It recommends that the Scheme be sanctioned for a period of three years, and that the Cotton Research Botanist be provided with one Entomological Assistant and one fieldman and that the work should be carried out in

co-operation with the Government Entomologist, Punjab. The Sub-Committee suggests the exclusion of item (2) in the programme of work and considers that work under item (3) should be confined to preliminary observations on the reasons for differential infestation by the jassids, and that item (3) (a) should be slightly altered and the sentence should read—"Is it against oviposition or feeding or embryonic development"—and that item (3) (b) should be omitted.

The Sub-Committee further recommends that the budget estimates under "Travelling Allowance, Supplies and Services and Contingencies" should be reduced from Rs. 300, Rs. 500 and Rs. 500 to Rs. 100, Rs. 200 and Rs. 100 respectively.

The Sub-Committee is of opinion that similar investigation is necessary in Sind and that the Chief Agricultural Officer in Sind should be asked to put up necessary proposals for consideration at the next meeting of the Sub-Committee. In the meanwhile, it is suggested the Entomologist in Sind should keep in touch with the work being done in the Punjab.

Scheme for the improvement of Mungari cotton in the Madras Presidency [No. 32 (b)].—As the details furnished in connection with this scheme were considered insufficient, the Sub-Committee decided that a Special Sub-Committee should be appointed consisting of Dr. Burns, Mr. Hutchinson, Rai Saheb Kalidas Sawhney and Mr. Ramanatha Ayyar to study the problem from the plant breeding side and to put up a scheme for consideration at the next meeting of the Agricultural Research Sub-Committee.

Punjab Pink and Spotted Bollworm Scheme—Proposals for preliminary work prior to clean-up campaign against the pest during 1936-37.

The Sub-Committee approved of the scheme.

IV. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON NEW SEED DISTRIBUTION AND EXTENSION SCHEMES.

Scheme for the extension of "Jarila" cotton seed in Khandesh (No. 33).—The Sub-Committee considered that, from the data produced, *Jarila* cotton appears to be a very promising selection, and that multiplication of seed should be undertaken. It was agreed, however, that field trials on a much more extensive scale than had been done were essential before the launching of such an expensive scheme as that proposed. It was also considered that more data concerning the spinning and commercial qualities of bulk samples were necessary.

In order, however, that there should be no hiatus between the closing down of the Banilla scheme and the probable large scale expansion of *Jarila*, the Sub-Committee recommends that in view of the difficulty of the Bombay Government to provide necessary funds till the budget for 1937-38 is passed under the new constitution the full expenditure on the scheme should be borne by the Committee for a period of ten months only. Future grants of the Committee towards this Scheme will be given in accordance with the policy of apportionment of grants between the Committee and Provincial Governments, which has been approved at this meeting.

The expenditure to be incurred will permit of the multiplication of *Jarila* seed in Bhadgaon Farm, and also under controlled conditions on cultivators' fields on a wide scale so that, in the event of the selection justifying expectations, large-scale expansion will be possible from 1939 onwards.

V. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON RESEARCH STUDENTS.

The Sub-Committee is of the opinion that all students securing research grants from the Indian Central Cotton Committee should submit periodic progress reports on their work and a final report or a copy of any thesis and that in addition all such reports should be accompanied by a brief confidential report on the student and his work from the officer under whom he is working. In the case of Technological Research students the Director, Technological Laboratory, should use his discretion to modify their reports if they contained any scientific information which he does not want to publish at that stage.

The reports and programmes of work of the research students were considered and approved.

The Sub-Committee recommended the extension of the training grant of Mr. C. Jagannatha Rao up to the 1st May 1937, as requested.

VI. GENERAL.

Bikaner Bengals Cotton Improvement Scheme—Modification of programme.—The Sectional Sub-Committee approved of the changes proposed by the Director of the Institute in the programme of work for the current year, viz., that the item "Humus supply for the cotton crop under II Agronomical work" be replaced by a new item "Cotton Variety and Agronomy". It was of the opinion, however, that in the experiment "Cotton Variety and Agronomy", instead of castor cake, a basal dressing with bulky organic manure supplemented by ammonium sulphate would be more suitable.

The Sub-Committee considered that on the evidence before it, the proposal of the Chief Agricultural Officer in Sind to depute an agricultural officer abroad to study the cultivation, ginning and marketing of American and other long staple cottons was not justified.

The Sub-Committee decided that cyclostyled copies of progress reports on research and seed distribution schemes should be made available to all workers on the Committee's schemes who may desire to receive them. These copies should be supplied free on requisitions made by the heads of Agricultural Departments. The confidential nature of such reports should be maintained.

The Sub-Committee considered that the appointment of a Technological Assistant at Parbhani for a period of two years from 1st April 1937 was justified but that his scale of pay should be in conformity with that of similar posts in other schemes. It recommends the omission of the provision for a recording telescope with eye-piece and for freight on apparatus at 10 per cent. and also of that for leave, pay, house rent, peon and livery for peon. It suggests, however, that instead of a peon a laboratory boy should be appointed.

The report of the Special Sub-Committee on the policy to be adopted by the Committee regarding the apportionment of the cost of schemes between the Committee and local Governments and States during renewal periods was approved.

The Sub-Committee recommends the acceptance of the proposal for the extension of the appointment of a temporary agricultural assistant (Chemical) to the end of the present sanctioned period of the Punjab Root Rot Scheme.

The Sub-Committee examined the budget and programme of work of the Institute of Plant Industry, Indore, and recommends that a supplementary grant of Rs. 26,000 be made for the financial year 1937-38.

In connection with the experiments carried out at the Technological Laboratory on samples of cotton from Lyallpur, Sakrand, Coimbatore and Indore with a view to ascertaining the influence of differential irrigation on the fibre properties and spinning quality of cotton, the Sub-Committee decided that the cotton breeders concerned should be requested to furnish as soon as possible the details concerning the field behaviour of the samples required by the Director, Technological Laboratory.

APPENDIX XVII.

SUBJECT 35.—*Report of the Standing Finance Sub-Committee.*—

- (a) Balance Sheet.
- (b) Financial Statement.
- (c) Revised Estimates, 1936-37.
- (d) Budget, 1937-38.
- (e) Auditors' fees.

Three meetings of the Sub-Committee were held since the last meeting of the Committee in August 1936. Messrs. A. P. Darlow and J. Vonesch having resigned, their places on the Sub-Committee were taken by Messrs. G. C. R. Coleridge and J. L. Hurschler respectively, who succeeded them on the Committee.

2. In January 1934, the Committee sanctioned a new scheme for the extension of long staple cotton in the Central Provinces and Berar for a period of three years at an estimated cost of Rs. 86,298. In August 1934, the Committee in pursuance of its new policy to encourage medium and long staple cotton in short staple areas, wherever possible, sanctioned a combined scheme for the extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar for a period of five years from the 1st April 1934; the Government of India, however, sanctioned the scheme for a period

of three years only in the first instance. At its last meeting, the Committee considered proposals for the extension of this scheme from the 1st April 1937 to the 30th April 1939 and decided that before the proposed extension of the scheme was sanctioned, the question of debiting the Committee's grants with only the actual out-of-pocket expenses of the Provincial Government should be settled by the Standing Finance Sub-Committee or referred to the full Committee at this meeting, as the case may be. It was also decided that when this subject came up for consideration by the Standing Finance Sub-Committee information should be given to the Director of Agriculture, Central Provinces, to enable him to come down personally to discuss the matter at the meeting of the Sub-Committee. The Sub-Committee at its meeting held in November 1936, at which the Director of Agriculture, Central Provinces, was present, considered and approved the revised budget estimates submitted by the Director of Agriculture, Central Provinces, amounting to Rs. 93,291 (Rs. 91,129-4-0 actual out-of-pocket expenses *plus* Rs. 2,161-12-0 on account of 25 per cent. deputation allowance) up to the 15th June 1939 against Rs. 97,854 originally estimated up to the 30th April 1939. This forms a separate item on the agenda of this meeting.

3. The Director, Technological Laboratory, recommended the grant to Mr. R. P. Richardson, the late Spinning Master of the Laboratory, of an honorarium of Rs. 150 for the period he was appointed to officiate as Director, Technological Laboratory, during the latter's absence on leave, in addition to carrying-out the duties of Spinning Master. The proposal was negatived.

4. The Committee at its last meeting decided not to renew the agreement of Mr. R. P. Richardson, Spinning Master, Technological Laboratory. Mr. Richardson was entitled to leave before the termination of his contract and in order to avail himself of the full leave admissible he should have proceeded on leave on the 5th October 1936. He was prepared to do this but the Director, Technological Laboratory, considered it necessary that Mr. Richardson should complete the work he had in hand before he left and he accordingly recommended that Mr. Richardson's period of active service be extended up to the 12th November 1936. The Sub-Committee sanctioned the proposed extension.

5. In view of its decision at its meeting in August 1936 to terminate the agreement of Mr. R. P. Richardson, Spinning Master at the Technological Laboratory, the Committee appointed an Expert Sub-Committee consisting of the following members to select a successor, and authorised the Standing Finance Sub-Committee to consider the report of the Sub-Committee and make the appointment :—

The President,
The Vice-President,
Mr. Kasturbhai Lalbhai,
Mr. S. D. Saklatvala,
Dewan Bahadur Sir T. Vijayaraghavacharya,
The Director, Technological Laboratory.

The Expert Sub-Committee, which met on the 19th November 1936, recommended the appointment of Mr. V. V. Gupte on probation for six months on Rs. 300 per mensem and on the scale of Rs. 350—25—500 after confirmation at the end of the probationary period thereby effecting an immediate saving of Rs. 650 per mensem. The Sub-Committee considered and approved the recommendation of the Expert Sub-Committee.

6. The Agricultural Research Sub-Committee at its meeting in January 1936, while considering revised proposals for work in connection with the Punjab Physiological (Cotton Failure) Scheme during the remaining four years of its five-year sanctioned period, made the following recommendation with regard to the appointment of Dr. Sant Singh Verma to the post of Assistant Physiologist provided for in the scheme in the scale of Rs. 200—250—25—550—25—750.

(a) That Dr. Verma be kept on for the full term of the scheme as he has been trained at the expense of the Committee specially for this type of work.

(b) That his pay should be Rs. 300 per month from the date on which he returned to his duties in September 1935 and increments be allowed to him as usual under the Rules, and

(c) That he should not be subject to the 15 per cent. cut imposed by the Punjab Government as he was already in his present grade when the cut was instituted.

The above recommendation was accepted by the full Committee at its meeting held in the same month and the sanction of the Government of India was subsequently obtained to the creation of the post of Assistant Physiologist on the scale of Rs. 200—250—25—550—25—750 for the scheme with retrospective effect from the 7th September 1935 and the appointment thereto of Dr. Verma on a starting pay of Rs. 300 per mensem. The

Sub-Committee considered a letter from the Director of Agriculture, Punjab, enquiring whether the Committee would like to revise its decision with regard to Dr. Verma in view of the revised scales of pay (Rs. 200—15—275—15—470—15—500—20—600, Class II Officers) introduced by the Punjab Government for the Provincial Services with effect from the 1st May 1936 and made applicable to all those not in service prior to the 31st December 1930. The Sub-Committee decided that as there was no break in Dr. Verma's service under the Committee since he was first appointed in November 1929, he should be exempted from the revised scale of pay.

7. The Sub-Committee at its meeting held on the 5th June 1936 considered an application from the Commissioner of Agriculture, Baroda, for an additional grant of Rs. 6,000 for the Plant Puller Propaganda Scheme in Baroda State under the item "Loss on the sale of plant pullers" and for "prizes, medals, etc." and decided to refer the matter to the Agricultural Research Sub-Committee. Accordingly the subject was placed before the Agricultural Research Sub-Committee at its meeting held in August 1936 when it was decided that the subject should be dealt with by the Standing Finance Sub-Committee after the details of expenditure on the Bombay Plant Puller Propaganda Scheme were obtained from the Director of Agriculture, Bombay Presidency. This recommendation of the Agricultural Research Sub-Committee was accepted by the full Committee at its meeting held in August 1936. The Sub-Committee after considering the details of expenditure obtained from the Director of Agriculture, Bombay Presidency, on the Bombay Plant Puller Propaganda Scheme decided to sanction an additional grant of Rs. 1,000 under the item of "prizes" and Rs. 2,250 under "loss on the sale of plant pullers" provided it was not possible to reduce the cost price of plant pullers and to obtain locally wooden handles for them at a cheap rate.

8. The Agricultural Research Sub-Committee at its meeting in August 1935, while considering the subject of the possibility of growing long and medium staple cottons in the short staple cotton areas of India, expressed the opinion that in short staple cotton areas like the Bijapur district in the Bombay Presidency and Raichur and Gulbarga Districts of the Hyderabad State, where the rainfall is limited and precarious, a solution of the problem confronting the successful growing of medium and long staple cottons might be found in devising suitable dry farming methods for the cultivation of cotton in these areas. The Sub-Committee accordingly recommended that the Imperial Council of Agricultural Research might be requested to include experiments with Northern and Western cottons in the programme of work on the dry farming schemes of the Council. In pursuance of this recommendation, the Imperial Council of Agricultural Research addressed the Directors of Agriculture, Bombay and Hyderabad. The reply received from the Director of Agriculture, Bombay, and forwarded by the Council was considered by the Committee at its meeting in August last and a sum of Rs. 1,780 sanctioned for the investigation for a period of one year in the first instance. As the reply from the Director of Agriculture, Hyderabad, was received only after the meeting of the Committee, it was considered by the Sub-Committee which sanctioned a sum of Rs. 390 for one year in the first instance towards the cost of experiments at Raichur.

9. The Sub-Committee considered the question of the renewal of the lease of office premises and provision of additional office accommodation and decided to leave these matters to the Vice-President for settlement. The Vice-President arranged for the rent of the present premises to be reduced from Rs. 475 to Rs. 450 per month. Suitable additional accommodation for the office has also been obtained in the adjoining wing of the building on the same floor at Rs. 200 per mensem. The Sub-Committee at its subsequent meeting confirmed the action taken by the Vice-President.

10. The Committee at its meeting held in August 1936 considered proposals for the extension of the Madras Tiruppur Seed Distribution and Extension Scheme from the 16th August 1936 to the 14th September 1937 at a cost of Rs. 6,550 and decided that the extension applied for be granted on condition that the Local Government agreed to provide Rs. 2,656 on account of the pay and travelling allowance of the Business Manager, during 1937-38, the Committee's contributions being thus limited to Rs. 3,894 only up to the 14th September 1937. The Sub-Committee considered the reply received from the Madras Government stating that the Local Government should be called upon to make a contribution towards the cost of the scheme only after the expiry of the original period of sanction and after definite results had been achieved, that the services of the Business Manager had to be retained primarily for the supervision and guidance of the Co. 2 Seed Distribution Scheme, which was a separate scheme, and that it was not possible to make other arrangements for doing the work now carried on by the Business Manager in respect of the Co. 2 Scheme. The Sub-Committee decided that as the scheme for the pay and allowance of the Business Manager was separate from the Co. 2 Seed Distribution Scheme, no grant should be sanctioned for its extension unless the Madras

Government accepted their share of expenditure as decided by the Committee at its last meeting. The Madras Government have since accepted the condition as laid down by the Committee.

11. The Sub-Committee considered the question of the revision of the rate of interest payable by the subscribers on loans taken from the Committee's Provident Fund and decided that the rate of interest on the advances from the Committee's Provident Fund should be fixed each year at the rate realised from the investments of the Committee's Provident Fund during the previous year.

12. The Sub-Committee considered the question of the fixation of pay of permanent men re-deputed to the Committee's schemes on the same scales of pay as previously drawn by them and decided that when a time scale of pay was sanctioned without fixing the starting pay, the initial pay should always be taken to be the minimum of the scale unless a higher starting pay was specifically sanctioned by the Committee for any particular officer.

13. In pursuance of the decision of the Sub-Committee and with the approval of the Government of India the Docks Manager, Bombay Port Trust, was asked to invite by advertisement tenders for the lighterage contract of American cotton for a period of three years from 1st December 1936. The only tender received as a result was from Messrs. Cooper Landing Co., the present contractors, who quoted the same rates as before. The Sub-Committee therefore agreed with the Docks Manager that the tender of Messrs. Cooper Landing Co. might be recommended for acceptance by the Government of India.

14. The Sub-Committee considered the question of revision of pay of the peons in the Secretary's and Director, Technological Laboratory's offices and decided that the Vice-President should be requested to fix, in consultation with the Secretary, the pay of the peons. The scale of Rs. 24—1 (biennial)—26 for the peons, hamals and malis, fixed by the Vice-President, in consultation with the Secretary, was approved by the Sub-Committee at its subsequent meeting. The question of fixing the pay of the Naik of the Secretary's office has been deferred till a vacancy arises.

15. The Committee at its meeting in August 1936 decided to offer Mr. K. Dharmarajulu, engaged on the Madras Pempheres and Physiological Scheme, subject to the concurrence of the Madras Government, the post of Senior Assistant (pay Rs. 200—10—250) in the new scheme for the Improvement of Kumpta cotton in Hyderabad State sanctioned by the Committee at its last meeting. The Sub-Committee considered and sanctioned the request of the Madras Government to retain Mr. Dharmarajulu at Coimbatore till the expiry of the Pempheres and Physiological Scheme. The Sub-Committee also considered an application from Mr. Dharmarajulu that he might be allowed the new scale of pay, viz. Rs. 200—10—250, at Coimbatore itself and decided to permit him to draw with effect from the 1st January 1937 the first increment in the scale of Rs. 200—15/2—245 originally sanctioned for his present post and after the expiry of the Pempheres and Physiological Scheme to appoint him as Senior Assistant in the scheme for the improvement of Kumpta cotton in Hyderabad State in the scale of Rs. 200—10—250.

16. The Sub-Committee sanctioned an additional grant of Rs. 219 for the scheme to obtain the estimation of the effects on the cotton crop of the use of the plant puller in Surat and Broach districts and Baroda.

17. The Sub-Committee fixed Rs. 10 as fees for each test on union fabrics conducted at the Technological Laboratory, as recommended by the Director, Technological Laboratory.

18. The Sub-Committee considered and refused the request of the Economic Botanist to Government (Cotton), United Provinces, for the grant of an honorarium of one month's pay amounting to Rs. 245 to the staff employed on the Rohilkhand and Bundelkhand Cotton Survey Scheme in recognition of their hard work in connection with the scheme.

19. The Committee at its last meeting, while considering the question of the extension of the Central Provinces and Berar Entomological Scheme for a period of one year up to the 30th September 1937, also considered the proposal of the Director of Agriculture, Central Provinces, for the grant of an honorarium to Rai Saheb G. R. Dutt for work in connection with the scheme and decided as under:—

“In view of the Committee's decision in January 1934 that the practice of granting allowances to Local Government officers in charge of Committee's schemes should be discontinued, the Sub-Committee does not recommend the grant of an honorarium to Rai Saheb Dutt as proposed by the Director of Agriculture, Central Provinces. If, however, a proposal were received for the appointment of an Assistant, it would be duly considered.”

The Sub-Committee considered proposals received from the Director of Agriculture, Central Provinces, and sanctioned the appointment of an Entomological Assistant on Rs. 100 per mensem for a period of nine months from the 1st January 1937 on the Central Provinces and Berar Entomological Scheme and an additional grant of Rs. 1,100 for his pay and travelling allowance. The Sub-Committee also sanctioned an additional grant of Rs. 225 on account of increment to Mr. M. S. Patel, Research Assistant, engaged on the same scheme.

20. The Sub-Committee sanctioned a scale of pay of Rs. 80—4—100 for the post of Stenographer in the Publicity Section of the office.

21. The Committee at its meeting held in August 1936 considered proposals for the extension of the Hyderabad Seed Distribution and Extension Scheme for a period of five years at an estimated cost of Rs. 54,665 and decided that the extension applied for be granted subject to the condition that at least 50 per cent. of the estimated expenditure was met by the State. In order to avoid possible complications from the accounts and administrative points of view the Director of Agriculture, H.E.H. the Nizam's Government suggested that instead of meeting the expenditure on a 50:50 basis the expenditure should be shared in the following proportion:—

	Rs.
(1) Amount to be met by the Indian Central Cotton Committee ..	28,560
(2) Amount to be met by H.E.H. the Nizam's Government ..	26,105
	54,665

The Sub-Committee considered the above suggestion and decided that in the first instance the full expenditure on salaries and Provident Fund be borne by the Committee and the expenditure not falling under these heads by the Hyderabad State, and that at the end of each year an adjustment of payment on a 50:50 basis be made and the difference, if any, settled by a lump sum payment either by the Committee or by the State.

22. The Sub-Committee considered the question of the appointment of auditors for the Committee's accounts for the year 1937-38, and decided to appoint Messrs. S. B. Billimoria & Co., as the Committee's Auditors for the year 1937-38, at a remuneration of Rs. 750 per annum.

23. A Balance Sheet of the audited accounts of the Committee's funds and of the Provident Fund as on the 30th September 1936 and also the Financial Statement as on the 31st January 1937 are attached for information. Rs. 17,22,143-0-2 of the Committee's securities are invested in Government Paper and Rs. 6,13,040-10-0 in long-dated Corporation Bonds. The market value of the Committee's securities, as will be seen from the Financial Statement, has appreciated by Rs. 4,98,660-1-10. To finance all the schemes at present in operation, it will be necessary in the near future to sell some of the securities.

24. Revised Estimates of Receipts and Expenditure for the current financial year are submitted for approval. Receipts from the cess up to the 31st March 1937 have been estimated at Rs. 8,00,000 against the original estimate of Rs. 6,00,000 and interest at Rs. 1,12,960 against Rs. 1,10,000 in August last. Under Miscellaneous Receipts Rs. 8,000 have been shown against Rs. 4,000 in August last.

The total expenditure for the current year is now estimated at Rs. 11,22,869 as against Rs. 12,67,180 in August last, the decrease of Rs. 1,44,311 being chiefly due to savings as detailed in the Revised Estimates. The closing balance (excluding recoverable loan amounting to Rs. 12,083-12-10) at the end of the current year will remain at Rs. 23,10,138-12-3 as compared with Rs. 25,12,047-12-3 at the end of last year.

25. The draft budget for 1937-38 is also submitted for approval. The estimates of receipts for cotton cess have been raised to Rs. 6,50,000 as against Rs. 6,00,000 last year. The figure under interest has been reduced from Rs. 1,12,960 to Rs. 1,07,300 in view of the necessity which is likely to arise for the sale of some of the securities. The budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. This does not take into account any profits that may be realised if securities are sold in the course of the year.

26. The Sub-Committee considered a reference from the Punjab Government enquiring whether the Committee was prepared to revise the pay of Mr. Mohammad Afzal, Cotton Research Botanist, Punjab, Botanical Scheme, in view of the fact that the Punjab Government had introduced revised rates of pay for the Provincial Services with effect from the 1st May 1936 applicable to all those who were not in service prior

to the 31st December 1930. In accordance with this revision the scale of pay of the Punjab Agricultural Service, Class I, has been fixed at Rs. 300—25—700 (efficiency bar)—30—1,000. The previous scale for this service was Rs. 360—40—720—40—800—50—1,150 and Mr. Afzal was appointed Cotton Research Botanist, Punjab, on this scale of pay with effect from the 18th April 1934. Mr. Afzal is at present on foreign service under the Committee and his appointment as Cotton Research Botanist on the Punjab Botanical Research Scheme was sanctioned by the Government of India with the approval of the Punjab Government on a pay of Rs. 480 per mensem in the old scale. As Mr. Afzal was not given any intimation at the time of his appointment that his pay was liable to revision, the Sub-Committee decided that he should be exempted from the revised scale of pay.

27. The Sub-Committee at its meeting in July 1936 considered the question of filling up the vacancy of Superintendent of the Secretary's Office and decided to offer the appointment to Mr. A. S. Iyengar, B.A., LL.B., Labour Officer under the Bombay Government, subject to a probationary period of one year, on a starting pay of Rs. 375 in the scale of Rs. 350—375—15—390—20—450—25—500. As Mr. Iyengar is a Government servant, the sanction of the Government of India under Rule 10 (1) of the Indian Cotton Cess Rules was applied for. The Government of India sanctioned the appointment of Mr. Iyengar to the post of Superintendent on probation for one year but on a starting pay of Rs. 370 in the scale of Rs. 350—20—450—25—500, stating that the starting pay of Rs. 375 as recommended by the Committee was not admissible under Rule 22 of the Fundamental Rules. The Sub-Committee considered the letter from the Government of India and decided that, in view of the fact that Mr. Iyengar was drawing a Rent Allowance of Rs. 30 per mensem at Ahmedabad in his previous appointment and that no such allowance was attached to the post of Superintendent of the Secretary's office, he might be given Rs. 390 from the date of his joining the Secretary's office.

28. In July 1932, the Technological Research Sub-Committee considered the question of providing to outsiders training in Cotton Technology at the Technological Laboratory and decided that the Director, Technological Laboratory, might, at his own discretion, select students for such training. The Director, Technological Laboratory, has since been admitting students for training in Cotton Technology at the Laboratory on payment of the approved fee of Rs. 50 each. One such student, Mr. Vrajlal B. Shah, who was selected in January 1937, to receive training at the Technological Laboratory attended the Laboratory on the 18th and 19th January 1937, absented himself on the 21st and paid his fee on the 22nd. He worked up to the 25th January and absented himself again from the next day. The Sub-Committee considered an application from him, forwarded by the Director, Technological Laboratory, for the refund of the fee of Rs. 50 which he had paid on the 22nd January 1937 less a proportionate deduction for the days on which he worked at the Laboratory. The Sub-Committee decided that the refund of fee asked for should not be granted and that in future when candidates were appointed for such training they should be required to give an undertaking that they would complete the course, failing which no demand would be made for a refund of the fees.

29. The Sub-Committee at its meeting held on the 4th January 1936 considered the draft agreement between the Committee and the Publicity Officer and decided that certain amendments should be made in clauses 6 and 8 and that the question of leave should be left to the discretion of the President. The necessary amendments were incorporated in the draft agreement and clause 8 which refers to the question of leave was also amended after consulting the President. The final draft of the agreement was sent for remarks to the Publicity Officer on the 23rd March 1936. The reply of the Publicity Officer contained in the following note dated the 19th February 1937 was considered by the Sub-Committee but it could not see its way to accede to any of the requests made :—

" Note by the Publicity Officer, dated the 19th February 1937.

With reference to the new draft agreement between the Committee and myself, there are four points on which I beg to approach the Standing Finance Sub-Committee for amendment.

First, with regard to Clause 2, the draft agreement lays down that the Publicity Officer shall carry out any other duties assigned to him by the duly accredited executive representative of the Committee. I feel that this provision needs to be altered as follows :—

' and such other duties relating to publicity and propaganda in respect of which Publicity Officer will from time to time receive instructions from the Committee or as the Committee may first approve.'

I submit that the term 'any other duties' is vague expression has shown that the duties of the Publicity Officer should be strictly defined. Occasions have arisen in the past in which work not strictly germane to publicity and propaganda has been added to the Publicity Officer's duties with the result that the main work could not receive that concentrated attention that the Committee expects. The amendment which I have suggested would, I think, better sub-serve the Committee's purpose in this respect.

With regard to Clause 4 the draft agreement says '.....as communicated to him from time to time by the Secretary for the time being of the Committee or in accordance with the instructions of the Committee.' etc. As the agreement is with the Committee, the passage should read as follows:— '.....as communicated to him from time to time by or on behalf of the Committee'.

Clause 8 seems to me to introduce an unnecessary element of uncertainty but if the Standing Finance Sub-Committee thinks it essential to make such a special provision in my case, I would suggest that the second sentence in the clause should be altered as follows:—

' Provided always that the Committee may in lieu of notice give to Mr. Mihra a sum equivalent to the amount of 6 months' omitting the words that follow.

For the same reason as I have given with regard to Clause 5, I submit that it is desirable to omit reference to the duly accredited executive representative of the Committee at the end of the first sentence of Clause 8.

In conclusion, I beg leave to draw the attention of the Standing Finance Sub-Committee to the matter of my house rent allowance which I hope they will raise to a reasonable figure. I find that the cost of living in Bombay, especially house rent, to be much higher than in any other part of India. After deducting income tax and provident fund what is left is not adequate to make both ends meet. I shall be grateful therefore if the Standing Finance Sub-Committee will see its way to granting me a higher allowance for my house rent, which was fixed at a time of financial stringency by the Committee."

1938



Summary Proceedings
OF THE
Thirty-fifth Meeting
OF THE
Indian Central Cotton Committee,
Bombay,
HELD ON THE
9th and 10th August 1937.

[Price Re. 1.]

INDIAN CENTRAL COTTON COMMITTEE.

35TH MEETING—9TH AND 10TH AUGUST 1937.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS.

AGENDA.

	PAGE.
1. Presidential address	7
2. Confirmation of Minutes	10
3. Comments of the Government of India on the Annual Report of the Committee	10
4. Changes in personnel of the Committee and Sub-Committees	10
5. Appointment of Cotton Growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and reports of members	10
6. Establishment of regulated cotton markets	11
7. Report on the fumigation of American cotton	11
8. Half-yearly Report of the Publicity and Propaganda Officer	11
9. Summary of Proceedings of the Local Sub-Committee	11
10. Village consumption of cotton in India	11
11. Progress Report on the Bombay Cotton Forecast Improvement scheme for the year ending 15th June 1937 and programme of work for 1937-38.	11
12. Proposed Scheme for the improvement of cotton forecasts of the Hyderabad State	11
13. Report of the Cotton Forecast Improvement Sub-Committee	11
14. Report of the Special Sub-Committee on Wider Markets for Indian Cotton	11
15. Technological Research—Progress Report of the Director, Technological Laboratory	12
16. Technological Research—Report of the Technological Research Sub-Committee	12
17. Agricultural Research—General Progress Report	12
18. Progress Report on Broach Cotton Breeding Scheme	13
19. Progress Report on Jalgaon Cotton Breeding Scheme	13
20. Progress Report on Scheme for the improvement of Wagad cottons at Viramgam	13
21. Progress Report on Scheme for breeding of Wilt-resistant cottons in Surat area	13
22. Progress Report on Madras Herbaceum Scheme	13
23. Progress Report on Madras Nadam Cotton Breeding Scheme	13
24. Progress Report on Bikaner Bengals Cotton Improvement Scheme	13
25. Progress Report on Bengal Comilla Cotton Scheme	13
26. Progress Report on Scheme for the improvement of Kumpta cotton in Hyderabad State	13
27. Progress Report on the Punjab Botanical Scheme	13
28. Progress Report on the Central Provinces Botanical Scheme	13
29. Progress Report on Hyderabad Botanical Scheme	13
30. Final Report on the Punjab White Fly Scheme	13

31. Progress Report on the Central Provinces and Berar Entomological Scheme	13
32. Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme ..	13
33. Progress Report on the Punjab Root Rot Scheme	13
34. Progress Report on Baroda Root Rot Scheme	13
35. Progress Report on Mysore (Doddahathi) Cotton Scheme	13
36. Progress Report on Madras Pempheres and Physiological Scheme ..	14
37. Progress Report on Madras Fodder Chola Scheme	14
38. Final Report on Sind Physiological Research Scheme	14
39. Progress Report on Scheme for Survey of Goghari cotton in Gujarat..	14
40. Final Report on Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces	14
41. Progress Report on Scheme for Survey of Goghari cotton in Baroda State	14
42. Progress Report on Plant Puller Propaganda Scheme in Surat and Broach Districts	14
43. Progress Report on Plant Puller Propaganda Scheme in Baroda State..	14
44. Progress Report on Joint Scheme for the estimation of effects on cotton crop of use of plant puller in Bombay Presidency and Baroda State..	14
45. Progress Report on the Scheme for Defibration of cotton seed in the Bombay Presidency.. .. .	14
46. Progress Report on the Scheme for Defibrating and Delinting Plant in the Punjab	14
47. Annual Report of the Institute of Plant Industry, Indore	14
48. Final Report on Burma Cotton Improvement Scheme	14
49. Programme of experimental work on the Scheme for the inclusion of Northern and Western cottons in the programme of work of Dry Farming Scheme at Bijapur	14
50. Report of tour in Iran to collect Herbaceous cottons	14
51. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Revised Jayawant and Gadag No. 1 Scheme	15
52. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Surat Scheme	15
53. <i>Seed Distribution and Extension Schemes</i> —Final Report on Khandesh (Banilla) Scheme	15
54. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Deccan Canals (Banilla) Scheme	15
55. <i>Seed Distribution and Extension Schemes</i> —Progress Report on B.D. 8 Scheme	15
56. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Sind Scheme	15
57. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Madras Tiruppur and Co. 2 Scheme	15
58. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Scheme for the extension of long-staple cotton and marketing of Verum cotton in the Central Provinces and Berar	15
59. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Hyderabad Scheme	15
60. <i>Seed Distribution and Extension Schemes</i> —Progress Report on Baroda (Navsari Seed Storage) Scheme	15
61. <i>Seed Distribution and Extension Schemes</i> —Progress Report on the United Provinces C. 402 Scheme	15

62. <i>Research Schemes—Proposed extensions of :—</i>	
(a) Plant Puller Propaganda Scheme in Baroda	15
(b) Central Provinces and Berar Entomological Scheme	16
(c) Joint Scheme for the estimation of effects on cotton crop of use of plant puller in Bombay Presidency and Baroda State	16
(d) Hyderabad Pink and Spotted Boll-worm Scheme	16
63. <i>Seed Distribution and Extension Schemes—Proposed expansion of :—</i>	
Deccan Canals (Banilla) Scheme	16
64. <i>Proposed New Research Schemes</i>	16
(a) Scheme for Cotton Jassid Investigation in Sind	
(b) Scheme for research into the improvement of cotton ginning machinery and the use of cotton openers	
(c) Scheme for cotton breeding in the United Provinces	
(d) Scheme for investigation into Black-Headed Cricket in Sind	
65. <i>Proposed Seed Distribution and Extension Schemes :—</i>	
(a) Scheme for the maintenance of a pure nucleus of K.T. 25 cotton in the Punjab	16
(b) Scheme for the maintenance of a pure nucleus of seed of all varieties of cotton in the Bombay Presidency	17
(c) Scheme for the maintenance of a pure nucleus of seed of improved varieties of cotton in Sind	17
66. <i>Sind Seed Distribution and Extension Scheme—Proposals for additional staff</i>	17
67. <i>Bengal Comilla Cotton Scheme—Reply of the Bengal Government to criticisms made by the Committee at its meeting held in August 1936.</i>	17
68. <i>Punjab Botanical Scheme—Criticism of—by Mr. Vonesch.</i>	18
69. <i>Proposed restriction of the number of improved types of cotton to be distributed in the Punjab</i>	18
70. <i>Policy to be adopted in regard to new schemes for the propagation of long-staple cotton in India—Resolution to be moved by Seth Isserdas Varindmal</i>	21
71. <i>Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments—Reference from Local Sub-Committee</i>	22
72. <i>Report of the Agricultural Research Sub-Committee</i>	
73. <i>Report of the Standing Finance Sub-Committee :—</i>	23
(a) Balance Sheet as at March 31st, 1937.	
(b) Final Accounts, 1936-37.	
(c) Revised Estimates, 1937-38.	
(d) Budget for 1938-39 (Government Servants).	
74. <i>Prohibition of import of foreign cotton seed and <i>Kapas</i> into maritime States in Kathiawar</i>	24
75. <i>Import of cotton into Bhawani Mandi from outside Malwa Plateau</i>	24
76. <i>Central Provinces Cotton Control Act, 1937</i>	24
77. <i>Bhopal Cotton Control Bill</i>	25
78. <i>Provincial Cotton Committees—Proceedings of the Sind Cotton Committee</i>	25
79. <i>Institution of revised system of Blind Surveys—Amendments to the Bye-laws of the East India Cotton Association</i>	25
80. <i>Cotton Policy in Gujerat—Reference from the Bombay Government.</i>	25
81. <i>Third Annual Report of the Lancashire Indian Cotton Committee—Remarks of members</i>	25

82. Growing of cotton in the United Provinces—Reference from the Upper India Chamber of Commerce	26
83. Early morning broadcast of cotton prices	26
84. Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936—Draft Rules under—Reference from the East India Cotton Association	26
85. Proposed Broadening of the Broach Hedge Contract	27
86. Vote of thanks to the Committee passed at the Conference of Scientific Research Workers on Cotton in India	27
87. Spread of leaf curl disease from hollyhocks to cotton in the Punjab—Reference from the Conference of Scientific Research Workers on Cotton	27
88. Final Report on Hyderabad Cotton Survey Scheme—Recommendations for improvement of cotton in Hyderabad State—Reference from last meeting of the Committee	27
89. Revision of the standard yield figures of cotton in	27
(a) Bombay Presidency,	
(b) Sind.	
90. Looms for weaving artificial silk—Orders from India—Letter from Lala Shri Ram	27
91. Deficiency in the supply of pure 289-F seed for cultivation in Sind—Letter from Messrs. Narandas Rajaram & Co.	27
92. Cultivation of quality cottons in Sind—Letter from Messrs. Narandas Rajaram & Co.	27
93. Provincial Cotton Committees—Proceedings of the Central Provinces Provincial Cotton Committee	28
94. Resumé of the Minutes of the meeting of the International Cotton Committee held at Amsterdam on 4th May 1937	28
95. Question of balancing the Budget of the Committee	29
*Resolutions passed by the Committee	34

APPENDICES.

I. Half-yearly Report of the Publicity and Propaganda Officer ..	36
II. Summary of Proceedings of the Local Sub-Committee	40
III. Summary of the Minutes of the Cotton Forecast Improvement Sub-Committee, 9th Meeting—6th August 1937	44
IV. Summary of the Minutes of the Special Sub-Committee to consider the question of a wider market for Indian Cotton	45
V. Technological Research—Report of the Technological Research Sub-Committee	47
VI. Agricultural Research—General Progress Report	49
VII. Summary of Proceedings of the Agricultural Research Sub-Committee	50
VIII. Central Provinces Cotton Control Act, 1937—Secretary's note ..	66
IX. Bhopal Cotton Control Bill—Secretary's note	68
X. Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936—Draft rules under—Reference from the East India Cotton Association—Secretary's note	68
XI. Report of the Standing Finance Sub-Committee	75

Present :

Mr. N. C. Mehta, I.C.S. (*President*), Officiating Vice-Chairman, Imperial Council of Agricultural Research.

Dr. W. Burns, D.Sc., I.A.S., Agricultural Expert, Imperial Council of Agricultural Research.

Mr. W. J. Jenkins, I.A.S., Director of Agriculture, Representative of Department of Agriculture, Bombay Presidency.

Mr. P. B. Richards, I.A.S., Director of Agriculture, Representative of Department of Agriculture, United Provinces.

Mr. H. R. Stewart, I.A.S., Director of Agriculture, Representative of Department of Agriculture, Punjab.

Mr. R. H. Hill, I.A.S., Officiating Director of Agriculture, Representative of Department of Agriculture, Central Provinces.

Mr. S. D. Saklatwala, M.L.A., Representative of the Bombay Millowners' Association.

Mr. S. B. Samoilys, Representative of the Bombay Chamber of Commerce.

Mr. Chandulal P. Parikh, M.L.A., Representative of the Indian Merchants' Chamber, Bombay.

Mr. G. C. R. Coleridge, Representative of the Karachi Chamber of Commerce.

Mr. J. Vonesch, Representative of the Tuticorin Chamber of Commerce.

Mr. J. Tinker, Representative of the Upper India Chamber of Commerce.

Mr. P. V. Deshmukh, Representative of the Cotton Manufacturing Industry, Central Provinces and Berar.

Mr. D. K. Kane, Commercial Representative, Central Provinces.

Mr. Balak Ram, Representative of the Cotton Manufacturing Industry, Punjab.

Mr. Akhil Bandhu Guha, Commercial Representative, Bengal.

Sir Chunilal V. Mehta, K.C.S.I., Co-operative Banking Representative.

M.R.Ry. V. C. Palaniswami Gounder Ayl., Representative of Cotton Growers, Madras.

M.R.Ry. Rao Bahadur B. P. Sesha Reddi Garu, Representative of Cotton Growers, Madras.

Sardar Rao Bahadur Bhimbhai Ranchodji Naik, Representative of Cotton Growers, Bombay.

Rao Bahadur C. S. Shirahatti, Representative of Cotton Growers, Bombay.

Sardar Sahib Gurbachan Singh, Representative of Cotton Growers, Punjab.

- Mian Nurullah, Representative of Cotton Growers, Punjab.
- Rao Bahadur Sir Madhaorao Deshpande, K.B.E., Representative of Cotton Growers, Central Provinces and Berar.
- Mr. M. P. Kolhe, Representative of Cotton Growers, Central Provinces and Berar.
- Mr. Nizam-ud-Din Hyder, Director of Agriculture, Representative of Hyderabad State.
- Mr. R. G. Allan, C.I.E., Commissioner of Agriculture, Representative of Baroda State.
- Mr. G. K. Lele, Deputy Director of Agriculture, Malwa Division, Ujjain.
- Mr. T. R. Low, I.A.S., Director of Institute of Plant Industry, Indore, Representative of Rajputana and Central India States.
- Mr. D. N. Mahta, Economic Botanist for Cotton, Central Provinces.
- Rao Bahadur S. S. Salimath, Deputy Director of Agriculture, Southern Division, Dharwar.
- Dr. V. K. Badami, Ph.D., Deputy Director, Department of Agriculture in Mysore State, Bangalore.
- M.R.Ry. V. Ramanatha Ayyar, Avl., Cotton Specialist, Coimbatore.
- Musahib-i-Khas Bahadur S. V. Kanungo, Finance Minister, Holkar State, Representative of the Holkar State.
- Rai Saheb K. I. Thadani, Director of Agriculture, Sind, Representative of Agricultural Department, Sind.
- Seth Isserdas Varindmal, M.L.A., Representative of the Karachi Indian Merchants' Association.
- Dr. B. L. Sethi, Economic Botanist for Cotton, United Provinces.
- Mr. Chellaram Shewaram, Representative of the Karachi Cotton Association, Ltd.
- Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.
- The Secretary (Mr. P. H. Rama Reddi, I.A.S.).
- The Director, Technological Laboratory (Dr. Nazir Ahmad).
- The Publicity Officer (Mr. R. D. Mihra), and
- The Assistant Secretary (Mr. C. J. Bocarro).

By Invitation.

- Mr. E. F. G. Gilmore, Officiating Director, Industrial Research Bureau, Indian Stores Department.
- Mr. Mazhar Husain, Director of Statistics, H.E.H. the Nizam's Government.
- Mr. M. D. Williams, c/o The British Cotton Growing Association (Khanewal), Ltd.
- Mr. B. S. Patel, I.A.S., Deputy Director of Agriculture, Gujarat.

Mr. J. N. Ghosh, Deputy Director of Statistics, Department of Commercial Intelligence and Statistics.

Mr. R. G. Saraiya, c/o Messrs. Narandas Rajaram & Co., Bombay.

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani.

Mr. T. B. Dalal, Secretary, Karachi Cotton Association, Ltd., Karachi.

Mr. K. Ramiah, Geneticist and Botanist, Institute of Plant Industry, Indore.

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur.

Mr. G. R. Ambekar, Provincial Officer-in-Charge, Bombay Cotton Forecast Improvement Scheme.

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

Mr. J. Nuttall.

Mr. Sayad Miran Mohammad Shah.

Khan Saheb Farrukhbeg Sadikalibeg Mirza.

Lala Shri Ram.

President's Speech.

I am very glad to have had this opportunity of welcoming you to the 35th half-yearly meeting of the Indian Central Cotton Committee. During the past week that I have been associated with the labours of the various Sub-Committees my education in all matters pertaining to cotton has been proceeding apace. The one thing which has struck me is the extent of the work already accomplished and the enormous amount that still remains to be done. Cotton unfortunately is a commodity not only subject to the vagaries of the world market, but also vulnerable to a variety of pests and diseases. Work has been concentrated for a number of years on overcoming and mitigating the damage done from these enemies of the cotton plant. Useful work has already been accomplished in connection with the botanical and entomological aspects of cotton. The technological part of the work has been in the capable hands of Dr. Nazir Ahmad and it is a matter of gratification that the work of the laboratory is being more and more appreciated by the trade and what is particularly important is that a number of problems for further investigation have been suggested by the industry. This collaboration between the scientists and the industrialists is a matter of the utmost moment; for in an era of rapid scientific development if the industry is to make progress it must be by means of exploiting to the full all the resources of modern science. Apart from international competition cotton has to meet the increasing menace of chemical substitutes. Artificial fabrics have been and are being constantly evolved which deserve to be seriously considered if the cotton industry is to maintain its position. Important investigations have already been undertaken to study this part of the question. An interesting report of the work done at the Technological Laboratory is on the agenda of the Committee. In this connection a proposal has been made to expedite the publication of this useful report and I hope this suggestion will meet with your approval.

2. In dealing with the various research schemes of cotton I have been struck with the amount of statistical work which has to be handled by the Committee's staff. Large sums of money have been spent with a view to attain higher standards of accuracy in the matter of cotton forecasts. Unfortunately however a good deal of the value of this work is likely to be lost for want of an adequate statistical organisation at the headquarters of the Committee. The science of statistics comes not only in dealing with trade returns but also in the matters of the proper lay-out of agricultural experiments and of valid interpretation of the collected data. In view of this the Committee might well consider the advisability of having a statistical organisation at the centre which would be in a position to ensure a general uniformity of procedure in the matter of agricultural experiments and collection of information. We in the Imperial Council of Agricultural Research and the Provinces have found our Statistical Section of the utmost value and it seems to me that a similar organisation will prove in the long run to be very much more economical than the present practice of handing over investigations of a statistical nature to the staff scattered in the provinces without any central guidance or uniformity of directions.

3. Let me pass on now to another feature of our cotton work. The principal difficulty encountered in connection with the propagation of better varieties of cotton has been the want of an adequate marketing organisation which would ensure an adequate return to the cultivator for the additional labour and expense in the production of quality cottons. A mass of useful information is already available scattered in the various publications issued under the ægis of the Committee. It seems to me however that time has now come when a more systematic survey of the marketing organisation of cotton right from the field till the time it reaches the consumer in the form of finished cloth is needed. The value of marketing is now generally recognised. As you are aware, the Government of India maintains an elaborate organisation under the Imperial Council of Agricultural Research for the study of marketing questions. A Report on wheat has recently been published. Similar reports in respect of other commodities are in course of preparation. To a body such as this it is unnecessary to stress further the necessity of securing adequate data in connection with cotton marketing. Proposal is now before you for consideration whether the Committee should not with the help of Mr. Livingstone undertake a survey of cotton marketing. I had an informal talk with the representatives of the Ahmedabad Millowners' Association in this connection. I have every hope that if such a marketing survey is undertaken, the various organisations in the industry will co-operate with the Committee. It may be of interest to know that it has already been decided to undertake marketing surveys in respect of jute as well as of sugar. I consider that when a marketing survey of cotton is completed, we shall have valuable information which will enable us to work for a more effective and profitable organisation of cotton markets throughout the country. In this connection it may perhaps be pertinent to draw your attention to the fact that with a commodity such as cotton we also have to keep ourselves in intimate touch with the developments abroad. We are vitally interested in exploring all possible markets for our cotton. Economic conditions throughout the world are changing at such a rapid pace that unless a definite organisation was available to keep ourselves in touch with the developments abroad, we are likely to be at a considerable disadvantage. Economic conditions have changed over a

considerable part of Europe including some of our important markets and we must have an organisation so that we may be familiar not only with changes in tariffs and trade arrangement, but also with changes in fashions, the evolution of substitutes or rivals to our own products whether primary or manufactured. This is a suggestion which you may find worthy of consideration. I would like also to suggest that we should make the fullest possible use of the services of our distinguished traders and industrialists whenever they have occasion to visit foreign countries. Highly organised countries like the United Kingdom and America frequently send out trade delegations to study conditions abroad. Until we are in a position to do likewise, we might make use, as far as possible, of the services of our members who may be going abroad and may be in a position to help us in solving some of our difficulties.

4. There are several important items concerning the introduction of quality cottons in various tracts. It is of course well known that the trend of progress of our mill industry is in the direction of spinning finer counts. This means that we must not expect any increase in the internal consumption of this particular kind of cotton unless further scientific investigation discloses the possibility of other uses for it. While the offtake of Indian cotton in the country during the past five years has increased by about 15 per cent. the imports of foreign cotton have gone up by no less than 58 per cent. This *prima facie* indicates the possibility of growing larger quantities of long-staple cotton in this country. Elaborate investigations have already been carried out about the introduction of long-staple varieties in various parts of the country. The limiting factor in a good many cases has been the price factor. To put it differently there is no difficulty in introducing larger quantities of long-staple cotton provided the cultivator gets a larger return for additional labour and expenditure. This is an ever recurring problem and whenever any scheme of introducing better varieties of cotton is considered, it is just as well to consider the question of profitable marketing at the same time. We have in the Indian Central Cotton Committee men of great experience and knowledge of the business side of cotton and it is hoped that a satisfactory solution will be found to this constantly recurring difficulty of ensuring an adequate return to the cultivator and maintaining and increasing the production of quality cottons.

5. The Indian Central Cotton Committee has like other similar organisations also its financial problems. In this, however, it is not unique for wherever problems of this magnitude have to be faced, financial solvency from year to year is not always possible. I shall not however anticipate your decision in these matters but care will have to be taken that we do not draw too lavishly on our reserve for meeting recurring expenditure.

6. You will be interested to know that Dr. Mason, who recently became a Fellow of the Royal Society, is already at work in connection with the Punjab Physiological Scheme. His report on the scheme will be awaited with interest.

7. The passing of the Central Provinces Cotton Control Act, which came into operation with effect from the 1st March 1937, marks a definite stage in the progress of cotton legislation. The Bhopal Durbar are also considering the question of introducing similar legislation with a view

to control the cultivation of inferior cotton in the State. This is a field in which the labours of the Indian Central Cotton Committee have borne a particularly rich harvest of useful results.

8. The question of broadcasting cotton prices is once again on the agenda. The Standing Finance Committee has already approved of an expenditure of Rs. 5,000 for 12 community receivers to be installed at suitable cotton centres. These are to be placed at the disposal of the Controller of Broadcasting. It is confidently hoped that these receivers will prove of great value to the cultivators in the various cotton markets.

9. We miss to-day the presence of Sir Bryce Burt, Sir Purshotamdas Thakurdas, the Vice-President of the Committee, and Mr. Kasturbhai Lalbhai who are at present in London in connection with the Indo-British Trade Negotiations. As cotton is one of the most important articles of our foreign trade, it is but appropriate that the wide knowledge and experience of all these three gentlemen should be available for these important negotiations.

10. Before I close, you will no doubt like me to extend on your behalf heartiest congratulations to Sir Madhaorao Deshpande on the conferment of the honour of Knight Commander of the British Empire. Sir Madhaorao has been one of our old valued and genial colleagues and we are all glad that this high honour has come to him in good time.

11. In conclusion, may I say how grateful I am to all my colleagues in the various Sub-Committees who have assisted me in dealing with the various important subjects considered by us during the course of the past week. The Indian Central Cotton Committee is perhaps a unique organisation combining within its fold scientific, administrative and industrial experience of a high order and I can only wish it ever increasing success in its endeavours to raise the level of cotton cultivation in this country and thus improve the economic condition of the cultivator.

SUBJECT 2.—Confirmation of Minutes.

The Minutes of the 34th meeting of the Committee held on the 2nd and 3rd March 1937 were confirmed.

SUBJECT 3.—Comments of the Government of India on the Annual Report of the Committee.

The Secretary's note was recorded.

SUBJECT 4.—Changes in the personnel of the Committee and Sub-Committees.

The Secretary's note was recorded.

SUBJECT 5.—Appointment of Cotton-Growers' representatives of the Committee to the Board of Directors of the East India Cotton Association and reports of members.

It was resolved that

RESOLUTION.—"The present members, Mian Nurullah, Mr. M. P. Kolhe and Sardar Rao Bahadur Bhimbhai R. Naik be appointed for another term of one year as cotton-growers' representatives of the Committee on the Board of Directors of the East India Cotton Association."

SUBJECT 6.—*Establishment of regulated cotton markets.*

Information was sought as to whether the Central Provinces Act was made applicable to the Berars as promised. The President observed that the question concerned the C. P. Government more than the Committee.

The Secretary's note was recorded.

SUBJECT 7.—*Report on the Fumigation of American cotton.*

The Secretary's note was recorded.

SUBJECT 8.—*Half-yearly Report * of the Publicity and Propaganda Officer.*
The President moved

RESOLUTION.—"That the Half-yearly report of the Publicity and Propaganda Officer be approved."

The resolution was carried.

SUBJECT 9.—*Summary of Proceedings† of the Local Sub-Committee.*

The Secretary's note was recorded.

SUBJECT 10.—*Village consumption of cotton in India.*

SUBJECT 11.—*Progress Report of the Bombay Cotton Forecast Improvement Scheme for the year ending 15th June 1937 and programme of work for 1937-38.*

SUBJECT 12.—*Proposed Scheme for the improvement of cotton forecasts of the Hyderabad State.*

SUBJECT 13.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The President moved that :—

RESOLUTION.—"The Report‡ of the Cotton Forecast Improvement Sub-Committee be adopted."

The resolution was carried.

SUBJECT 14.—*Report§ of the Special Sub-Committee on wider markets for Indian Cotton.*

The President moved :—

RESOLUTION.—"That the Report of the Wider Markets Sub-Committee be adopted."

The President drew the attention of the members to the general discussion in the Sub-Committee which was incorporated in the report.

A complaint was made of the slow progress the Sub-Committee was making. Beyond the employment of a clerk in the office of the

* Appendix I (page 36). † Appendix II (page 40). ‡ Appendix III (page 44).
§ Appendix IV (page 45).

Director-General of Commercial Intelligence and Statistics and a brochure brought out in co-operation with the East India Cotton Association, the Sub-Committee had done nothing. It was felt that serious trouble would be experienced in selling Indian cotton in Japan as owing to Japanese Government's Exchange controlling measures a virtual monopoly was created and it was difficult to realise good price for cotton. The condition of Indian cotton was deteriorating in Germany, Italy and other parts of the world. Mere reports from the Indian Trade Commissioners abroad many months after the events had taken place were of no avail. A proper overseas marketing organization in close touch with the Indian Trade Commissioners abroad was the immediate need.

Some members thought that in view of the retrenchment resolution it was not possible to seriously think of an overseas organisation.

The President observed that if the Committee approved of the idea a scheme for the overseas organisation to watch the interest of the Indian cotton might be worked out in detail. He suggested that a scheme might be evolved requiring reasonable finance if some thought was given to it. He moved the following resolution :—

RESOLUTION.—"That the suggestion regarding an overseas organisation be approved in principle and a proper scheme be worked out and put up before the next meeting of the Wider Markets Sub-Committee. The suggestion might be examined further by the Standing Finance Sub-Committee and with their approval the scheme might be put before the full Committee."

The resolution was carried.

SUBJECT 15.—*Technological Research—Progress Report of the Director, Technological Laboratory.*

SUBJECT 16.—*Technological Research—Report* of the Technological Research Sub-Committee.*

The President promised that in future the report of the Technological Laboratory would be available to the trade members earlier and after circulation to the members of the Technological Research Sub-Committee would be printed as separate publication of the Laboratory. This would expedite the printing of the report by two months.

The President moved :—

RESOLUTION.—"That the progress Report of the Director, Technological Laboratory be approved."

RESOLUTION.—"That the Report of the Technological Research Sub-Committee be adopted."

The resolutions were carried.

SUBJECT 17.—*Agricultural Research—General Progress Report.*

The Secretary's note† was recorded and the Report of the Agricultural Research Sub-Committee was adopted.

* Appendix V (page 47). † Appendix VI (page 49).

SUBJECT 18.—*Progress Report on Broach Cotton Breeding Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 19.—*Progress Report on Jalgaon Cotton Breeding Scheme.*

SUBJECT 20.—*Progress Report on Scheme for the Improvement of Wagad cottons at Viramgam.*

Mr. Jenkins made a spirited defence of the agricultural workers who were criticised in season and out of season. He asked the members whether the schemes under discussion had not produced good results and were widely disseminated.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 21.—*Progress Report on Scheme for breeding of wilt-resistant cottons in Surat area.*

SUBJECT 22.—*Progress Report on Madras Herbaceum Scheme.*

SUBJECT 23.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

SUBJECT 24.—*Progress Report on Bikaner Bengals Cotton Improvement Scheme.*

SUBJECT 25.—*Progress Report on Bengal Comilla Cotton Scheme.*

SUBJECT 26.—*Progress Report on Scheme for the improvement of Kumpta cotton in Hyderabad State.*

The Report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 27.—*Progress Report on the Punjab Botanical Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 28.—*Progress Report on the Central Provinces Botanical Scheme.*

SUBJECT 29.—*Progress Report on Hyderabad Botanical Scheme.*

SUBJECT 30.—*Final Report on the Punjab White Fly Scheme.*

SUBJECT 31.—*Progress Report on the Central Provinces and Berar Entomological Scheme.*

SUBJECT 32.—*Progress Report on Hyderabad Pink and Spotted Boll-worm Scheme.*

SUBJECT 33.—*Progress Report on the Punjab Root Rot Scheme.*

SUBJECT 34.—*Progress Report on Baroda Root Rot Scheme.*

SUBJECT 35.—*Progress Report on Mysore (Doddahathi) Cotton Scheme.*

SUBJECT 36.—*Progress Report on Madras Pempheres and Physiological Scheme.*

SUBJECT 37.—*Progress Report on Madras Fodder Cholan Scheme.*

The Report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 38.—*Final Report on the Sind Physiological Research Scheme*
The Secretary's note was recorded.

SUBJECT 39.—*Progress Report on the Scheme of Survey of Goghari Cotton in Gujerat.*

SUBJECT 40.—*Final Report on Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces.*

SUBJECT 41.—*Progress Report on Scheme for Survey of Goghari Cotton in Baroda State.*

SUBJECT 42.—*Progress Report on Plant Puller Propaganda Scheme in Surat and Broach Districts.*

SUBJECT 43.—*Progress Report on Plant Puller Propaganda Scheme in Baroda State.*

SUBJECT 44.—*Progress Report on Joint Scheme for the estimation of effects on cotton crop of the use of Plant Puller in Bombay Presidency and Baroda State.*

SUBJECT 45.—*Progress Report on the Scheme for Defibration of cotton seed in Bombay Presidency.*

SUBJECT 46.—*Progress Report on the Scheme for Defibrating and De-linting Plant in the Punjab.*

The Report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 47.—*Annual Report of the Institute of Plant Industry, Indore.*

The President observed that as the report of the Institute was of considerable importance and as the Agricultural Research Sub-Committee was too busy going through it in detail, the Report was submitted to a Sub-Committee of botanists. This procedure of submitting was approved by the Committee and it was suggested that an agronomist or an agricultural chemist should be also included on the Sub-Committee.

The Report of the Sub-Committee was adopted.

SUBJECT 48.—*Final Report on Burma Cotton Improvement Scheme.*

SUBJECT 49.—*Programme of experimental work on the Scheme for the Inclusion of Northern and Western cottons in the Programme of work of Dry Farming Scheme at Bijapur.*

SUBJECT 50.—*Report of Tour in Iran to collect Herbaceous cottons.*

SUBJECT 51.—*Seed Distribution and Extension Schemes—Progress Report on Revised Jayawant and Gadag No. 1 Scheme.*

The Report of the Agricultural Research Sub-Committee on the above subject was adopted.

SUBJECT 52.—*Seed Distribution and Extension Schemes—Progress Report on Surat Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted subject to the decision of the Committee on Subject 80.

SUBJECT 53.—*Seed Distribution and Extension Schemes—Final Report on Khandesh (Banilla) Scheme.*

SUBJECT 54.—*Seed Distribution and Extension Schemes—Progress Report on Deccan Canals (Banilla) Scheme.*

The Report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 55.—*Seed Distribution and Extension Schemes—Progress Report on B. D. 8 Scheme.*

The report of the Agricultural Research Sub-Committee was adopted subject to the decision of the Committee on Subject No. 80.

SUBJECT 56.—*Seed Distribution and Extension Schemes—Progress Report on Sind Scheme.*

SUBJECT 57.—*Seed Distribution and Extension Schemes—Progress Report on Madras Tirupur and Co. 2 Scheme.*

SUBJECT 58.—*Seed Distribution and Extension Schemes—Progress Report on Scheme for the extension of long-staple cotton and marketing of Verum cotton in the Central Provinces and Berar.*

SUBJECT 59.—*Seed Distribution and Extension Schemes—Progress Report on Hyderabad Scheme.*

SUBJECT 60.—*Seed Distribution and Extension Schemes—Progress Report on Baroda (Navsari Seed Storage) Scheme.*

The report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 61.—*Seed Distribution and Extension Schemes—Progress Report on the United Provinces C.402 Scheme.*

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 62.—*Research Schemes—Proposed Extensions of—(a) Plant Puller Propaganda Scheme in Baroda.*

The zeal for retrenchment as far as this scheme was concerned did not find favour with the Committee. The Scheme was in operation for the last two years and the suggestion of one of the members that the extension should be sanctioned for one year only and that the Baroda

Government should be called upon to contribute towards the scheme was ultimately not approved.

It was pointed out that the scheme was very important from the point of view both of Bombay and Baroda. If the Scheme was not sanctioned re-infection would take place in large areas in Bombay from the Baroda tracts as the areas were very much interlaced. It was no use carrying on a campaign of exterminating the boll-worm pest from Bombay when the adjoining tracts in the Baroda territory were neglected. The work done already was good and the propaganda value to the cultivator was great.

The President observed that scientific schemes to be successful had to be worked to the full sanctioned period of the programme drawn up. Scientific schemes could not be worked if sanctioned piecemeal.

The Report of the Agricultural Research Sub-Committee was adopted.

(b) Central Provinces and Berar Entomological Scheme.

It was impressed upon the Committee that unless fresh staff was given to Rai Saheb Dutt the continuation of the Scheme would be impossible.

The report of the Agricultural Research Sub-Committee was adopted.

(c) Joint Scheme for the estimation of effects on cotton crop of use of Plant puller in Bombay Presidency and Baroda State.

(d) Hyderabad Pink and Spotted Boll-worm Scheme.

SUBJECT 63.—*Seed Distribution and Extension Schemes:—Proposed expansion of—Deccan Canals (Banilla) Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 64.—*Proposed New Research Schemes—(a) Scheme for cotton Jassid Investigation in Sind.*

The report of the Agricultural Research Sub-Committee on the above subject was adopted.

(b) Scheme for Research into improvement of cotton ginning machinery and the use of cotton openers.

The President observed that the consideration of the scheme was postponed till after the return of Mr. Roberts.

(c) Scheme for cotton breeding in the United Provinces.

The President informed the Committee that this scheme was withdrawn by the United Provinces Government.

(d) Scheme for investigation into Black-headed cricket in Sind.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 65.—*Proposed Seed Distribution and Extension Schemes—(a) Scheme for the maintenance of a pure nucleus of K. T. 25 cotton in the Punjab.*

It was explained that K. T. 25 was a special selection of 289 F which was finding much favour owing to its high ginning qualities. It was not however jassid resistant and as such was not on the approved list of the Punjab Agricultural Department. Practically all the cotton

sold under the label 289 F was K. T. 25. The importance to the Punjab of keeping the strain pure was evident from the fact that at present over 70,000 acres were under it and in the coming year the area covered would be a lakh and half acres.

Mr. Stewart pointed out that the proposal to finance the scheme by the Committee was first considered by the Sectional Sub-Committee but was turned down by the full Agricultural Research Sub-Committee on the plea that it did not fall within the intentions underlying the Committee's offer. If the Committee accepted the decision of the Agricultural Research Sub-Committee and rejected it now, Mr. Stewart sounded a note of warning that when the scheme would come back to them it would be the same one with the same object in view but the expenditure they would have to sanction then would be greater. The object was to purify and if possible to remove the jassid susceptibility of K. T. 25 strain. The previous day the trade members had pointed out the importance of keeping up the standard of 289 F. and K. T. 25 was nothing else but an improved strain of 289F. The scheme should have the approval of the trade members when it came up again not as a scheme for the maintenance of a pure nucleus but as one for the improvement of K. T. 25.

Dr. Burns was of opinion that a new botanical scheme was indicated rather than one for maintaining a pure nucleus.

After a little more discussion the President observed that as the object of the scheme did not fall under the category of maintaining a nucleus of pure seed, the Agricultural Research Sub-Committee decided to send the scheme for reconsideration.

The report of the Agricultural Research Sub-Committee was adopted.

(b) *Scheme for the maintenance of a pure nucleus of seed of all varieties of cotton in the Bombay Presidency.*

A view was expressed that as the seed distribution schemes were in operation there was no need for maintaining a separate nucleus of pure seed as it automatically existed.

Mr. Jenkins admitted that the Agricultural Department maintained such nuclei of pure seeds but the proposed nuclei would be in addition to the Departmental farms and would be continued after the seed distribution schemes were concluded. He explained that nucleus scheme was much more important than the seed distribution schemes.

The Report of the Agricultural Research Sub-Committee was adopted.

(c) *Scheme for the maintenance of a pure nucleus of seed of improved varieties of cotton in Sind.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 66.—*Sind Seed Distribution and Extension Scheme—Proposals for additional staff.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 67.—*Bengal Comilla Cotton Scheme—Reply of the Bengal Government to criticisms made by the Committee at its meeting held in August 1936.*

The Secretary's note was recorded.

SUBJECT 68.—*Punjab Botanical Scheme—Criticism of—by Mr. Vonesch.*

SUBJECT 69.—*Proposed restriction of the number of improved types of cotton to be distributed in Punjab.*

The Director of Agriculture, Punjab, in a detailed reply answered some of the unwarranted criticism levelled against the Punjab Botanical Research Scheme and the Punjab Agricultural Department. It was a contradiction in terms when some of the critics blamed them for spending lakhs of rupees and doing nothing while on the other hand to find fault with the Punjab Botanical Research Scheme and Punjab Agricultural Department for putting too many varieties of cottons in the field. He did not know which set of critics were right.

To begin with it was not correct to say that the Indian Central Cotton Committee had entirely financed the Punjab Botanical Research Scheme. The actual expenditure that the Committee had incurred up to 31st March 1937, on the Punjab Botanical Scheme was Rs. 4,97,000 and not Rs. 7,16,980 as stated by critics. The former figure included a realizable amount of Rs. 66,000 for apparatus and the building of the Research Laboratory which was erected with a definite understanding that the Punjab Government will buy over the building from the Committee. This further reduces the amount of expenditure spent by the Committee to Rs. 4,31,000. The Punjab Botanical Scheme was one of the very few schemes of the Committee which the Local Government had, from the very outset, helped to finance. The Government made available land to the extent of 240 acres to build a farm costing about Rs. 66,000, and had borne the entire cost of the experimental work. It was, therefore, quite unwarranted to say that since the Indian Central Cotton Committee pays the piper can surely not be the reason for their indifference. It was quite wrong to stigmatise the Research Farm as "glorified botanical garden." It was perhaps due to the fact that the critic had left Punjab for the last ten years and hence did not know what has been done for "the more pushing types of Punjab Cultivator."

Referring to the criticisms that a number of types of cotton varieties were made available to the cultivator with the consequent result that the trade did not get continuous supply of uniform quality of cotton and the lack of help shown by the Agricultural Department to the cultivator's interests, the Director of Agriculture, Punjab, refuted the statement that 289-F was an unqualified success in Sind and Punjab. 289-F had never proved an unqualified success except in some of the tracts of Canal Colony. The assumption of the critics of the success of 289-F was wrong. It was equally out of place to blame the Agricultural Department for "not content to rest for a while on their laurels" and to find fault with the department for cooking out and propagating a number of varieties such as N.T., L.S.S., K.T., and a host of others of lower spinning value than 289-F. As 289-F was only suitable for a limited area of the Punjab, the Agricultural Department naturally turned its attention for finding out other varieties, and L.S.F. and 43-F were evolved. These new cottons were definitely suitable for certain tracts and particular climatic conditions in the Punjab. The Department had not put out a host of new types of the Punjab-American cotton though a host of types was under trial under different stages over the research area, but neither the growers nor any one else had seen them except those directly interested in them. It was also wrong to say that Punjab-American 289-F was deteriorating owing to admixture as a result

of the new cottons introduced, as the Technological Laboratory shows the staple length of 289-F to be .96", that of 43-F to be .94", and of L.S.S. .90". As regards K.T. 25 it was evolved by the British Cotton Growing Association at Khanewal and was nothing better than a strain of 289-F, though the Department had never considered it to be a better yielder than 289-F and it never pushed its growth as it was jassid-susceptible. Its only advantage over 289-F was that it was a better ginner and spread on its own merits. In fact, the Department had produced as good a cotton as K.T. 25 but had withheld it as it was jassid-susceptible and might at any time result in a loss to the cultivator.

Commenting on the proposed portion of the resolution, *viz.*, "The Agricultural authorities should not undertake to propagate the cultivation of any new variety of strain without the consent of the Indian Central Cotton Committee," the Director of Agriculture, Punjab, observed that he was unable to accept any laying down of policy for the Department. In the first place he did not think that the members of the Indian Central Cotton Committee had the intimate knowledge of the local condition in the Punjab as to enable them to arrive at a correct decision for or against a particular cotton. In the second place, if the Agricultural Department were in a position to put into the hands of the cultivator a new cotton which had proved both at the experimental farm and on wide field scale a better yielder per acre than the existing varieties he felt that the department would not be justified in withholding it from the farmer. It was not only the ginner who was a business-man but also the cultivator and he would not be persuaded to grow a variety which did not pay him. As regards the unfavourable comparison of the Punjab Agricultural Department with that of Madras Department which had been content with one kind of cotton, he was not prepared to comment, but as far as Punjab was concerned with its varied conditions of climate and soil, he was definite that it was impossible to evolve out only one strain suitable for the whole province. He, therefore, thought that it would not be wise for the Committee to pass the resolution on the lines proposed.

Referring to other criticisms of the Punjab Agricultural Department, *viz.*, that it had made no constructive criticisms of the policy followed by the Cotton Research Botanist, the Director of Agriculture, Punjab, pointed out that the Cotton Research Botanist was paid by the Committee for finding out new strains of *Desi* and American cottons and for giving full information as to their quality and capacity to the Agricultural Department. The Research Officer had no right to go beyond that. The responsibility for deciding what should be done with any cotton evolved by the Research Officer fell on the Director of Agriculture. It was the Director of Agriculture, who before withholding or giving out any particular strain always obtained the opinion of those who had sufficient experience of the cotton in question. After complete facts and details were obtained they were put before the Provincial Cotton Committee for a thorough scrutiny of their merits and defects. It was then only that the Director of Agriculture took his final decision.

Another criticism levelled against the Department was that it was not giving better strains to the cultivator. The Punjab Government had held a conference in the early days of depression and decided that the best way of bettering the lot of the cultivator was to put into his

hands greater quantities of improved strains so as to help him to get a better outturn per acre and a better price per maund. Acting on that decision the budget of the Department for distribution of improved varieties of seed had progressively increased from Rs. 1,07,000 in 1932 to Rs. 11½ lakhs in the current year. Regarding the distribution of improved cotton seed the Director of Agriculture, Punjab, pointed out that while the quantity distributed in 1932 amounted to 22,000, the seed distributed in the current year amounted to 95,000 maunds.

Continuing his observations, the Director of Agriculture summed up the trend of discussion and notes on the subject in three major proposals as follows :—

(1) That the number of already existing commercial types of cotton should not be increased. (2) That to reduce the mixing of the different varieties, the Cotton Transport Act should be applied. (3) That members of the trade should be consulted before a final decision was made to place a new and improved cotton in the hands of the cultivator.

Regarding the first point the Director of Agriculture, Punjab, observed that the Agricultural Department in the Punjab had on their hands a greatly improved Mollisoni strain which was known to officers as Mollisoni 39, but was not yet issued under a separate name or number. He proposed to issue it under the old name. It was necessary to put new cottons 43-F and L.S.S. under new names if it would meet the objections of the trade and he would adopt the same procedure as regards Mollisoni and pass them under their original names and numbers though they were decidedly superior.

Coming to the application of the Cotton Transport Act, the Director doubted whether conditions in the Punjab would make it possible to work the Act. Desi and American cottons were grown in the same tracts side by side, and it was not in the interest of the cultivators to prohibit the growing of one or the other. It was true that 289F, L.S.S. and 43-F were grown in more localised areas and the trade would like to keep them unmixed. But even here, there were no natural barriers and it would be impossible to administer the Act effectively.

Dealing with the third point, the Director pointed out the absence of trade members when the Punjab Provincial Cotton Committee met and took final decisions regarding new strains. He was, however, willing to take the suggestions of local representatives of large firms like Volkarts and Rallis. He hoped that this would meet the wishes of the trade. While appreciating the difficulties of the Director of Agriculture, Punjab, it was suggested by one of the speakers that Cotton Transport Act could be applied at least to a certain part of the Province.

The President thanked Mr. Stewart for the interesting survey of the cotton position in the Punjab. While the Research Botanist's duty was to evolve out new strains only and the responsibility for introducing them lay with the Director of Agriculture, the President thought that the point of view of the members of the Committee would be met if the Director of Agriculture, before coming to his decision were to consult some of the trade members of the Committee.

Mr. Stewart in continuing the discussion on the subject again stressed the difficulties in the way of the Agricultural Department in issuing

out a new strain to the growers. The second difficulty was experienced by the trade as owing to a large number of varieties the cotton got mixed up and it was difficult to get pure cotton. The third grievance was the exclusion of the members of the trade when the final decision was taken regarding the issue of new strains. He doubted whether the second evil could be checked by the application of the Cotton Transport Act. As to the third point he was willing to invite the representatives of large firms having knowledge of local conditions to the meetings of the Provincial Committee when final decisions were taken regarding the issue of a new type of cotton to the growers.

The President observed that the solutions offered by Mr. Stewart were acceptable to the trade.

All the resolutions on the subject moved by the members were withdrawn.

SUBJECT 70.—*Policy to be adopted in regard to new schemes for the propagation of long staple cotton in India—Resolution to be moved by Seth Isserdas Varindmal.*

RESOLUTION.—"Whereas the Indian Central Cotton Committee by its various schemes, has given sufficient impetus to the production of long-staple cotton in India.

But whereas the demand for long-staple cotton in India does appear to keep pace with the increasing production of the cotton with the result that a considerable surplus of this cotton has to be exported in competition with other world cottons and that, therefore, a sufficient price is not obtainable for this cotton.

This meeting of the Indian Central Cotton Committee resolves that no new schemes for the propagation of long-staple cotton in substitution of indigenous growths shall be undertaken in areas in which long-staple cotton at present is not grown, until a thorough review of this policy at the end of five years justifies otherwise."

The mover of the resolution sought to make out his case on the two main points, *viz.*, that the production of the long-staple cotton was out of proportion to the needs of the home consumption and needs of the export trade and that better prices were realised for the short and medium staple cottons than those for the long-staple variety. He blamed the Indian millowners for not helping the cultivator who spent more in the production of the Punjab-American variety of long-staple cotton.

The statements made by the mover were challenged by other members and it was pointed out that there was a group of Bombay mills which was not able to buy Indian long-staple cotton in sufficiently large quantities.

The President observed that he had no objection to the postponement of the consideration of the resolution till the next meeting as desired by the mover. He, however, pointed out that all schemes for the production of long-staple cotton, now in progress, had been sanctioned after full consideration of all the facts and that no hurried decisions had been taken. No cultivator had been compelled to sow a particular variety and his interests had been always uppermost in the minds of the members of the Committee. The appeal to Indian Millowners and to Lancashire would be futile as being business-men they would be guided by the price parity. Personally, he thought there was no need for the resolution as there was no conflict between the views of the mover and the policy of the Committee.

The consideration of the resolution was postponed.

SUBJECT 71.—*Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments—Reference from Local Sub-Committee.*

Strong opposition was met to the Local Sub-Committee's proposal that cottons grown under the direct supervision of the Agricultural Departments should be sold to the mills only and not by auction. It was pointed out that the motto 'Indian cottons for Indian Mills' sounded very well but the cultivator should not be asked to undergo such sacrifice for the sake of the millowners as this practice of selling produce directly to the mills would ultimately lead to. When the grower was deprived of his right to sell cotton through the broker or at the auction he was likely to lose the benefit of getting the full value for his crop as the usual law of supply and demand would not be in operation.

If the proposal was to ensure a pure supply of unmixed cotton to the mills the cultivator should not be penalised for the sins of the trade as it was a known fact that the mixture took place generally in the factories and not in the fields.

Mr. Coleridge objected to the proposal on the ground that it was not the normal function of the Agricultural Department to venture into such commercial undertakings as the marketing of cotton. It required specialised knowledge and in view of the experience of Agricultural Department of Sind, which had to suffer loss he strongly deprecated the entry of the Agricultural Department into the field of commerce.

The view was further supported by other officers that the Agricultural Department should not be called upon to enter into commercial fields.

Mr. Stewart was of opinion that auctions were necessary in the initial stages. He instanced the case of 4-F when it was first introduced in the Punjab. Auction sales induced cultivators to bring large quantities of *kripas* at one place and this served as a source of pure seed supply for the Agricultural Department. The cultivators also realised better prices for their produce as it was worthwhile for the trade to pay it. The *kapas* was sold at those auctions subject to the condition that it was ginned under the supervision of the Agricultural Department.

Dr. Burns thought that it was not right that the responsibility for the purity of cotton should be passed on to the Agricultural Department specially when a certain perverse section of the trade was undoing all the good work done by the Department and the Central Cotton Committee. Until legislation was put on the Statute Book to stop the practice of mixing nothing would be gained by discussing the matter further.

The President, in summing up the discussion, said that the evil of mixing was admitted on one hand as also the principle that the cultivator should get the best possible return for his produce. The question was one involving organisation and it was obvious that the Agricultural Department was not in a position to shoulder the responsibility of marketing side of the work. In fact, the Agricultural Department should not be brought at all into this business of marketing. Time was the very essence of marketing a crop and the millowners should tackle the problem of securing as much of the new cottons as possible by getting in touch

with the cultivators' organisations wherever they existed. He cited the case of the sugar industry. It had a similar problem to tackle. The sugar manufacturers made considerable advances at cheap rates to the cultivators round about the mills. Ordinarily, the cultivator had to borrow at high rate of interest even up to 24% compound to sow the improved varieties. Though cotton marketing was a more risky affair than sugar what the sugar manufacturers could do in a short time the Cotton Manufacturers' Associations, which were older bodies, could certainly do in a better way. As the mills were vitally interested in the question they should take up the matter seriously in hand.

To the argument that whereas the sugar industry was a prosperous one while the mill industry was passing through a serious depression the President answered that even depressed industries like the Coffee and Tea plantations had devised joint scientific organisations for the sale and marketing of their products and he saw no reason why by their joint efforts the millowners could not find out ways and means to get over the difficulty.

In conclusion the President observed that there were two propositions for consideration. One was that Sir Chunilal Mehta and Mr. Jenkins should work out a scheme in regard to the Bombay Presidency to be presented at the next meeting of the Committee. The other was his (President's) own suggestion for setting up a suitable organisation to tackle the problem in respect of all the Committee's schemes, so that something might be done to finance the production of new and improved cottons and the mills might get the desired quantum of pure crop direct.

Both the suggestions were agreed to.

SUBJECT 72.—*Report* of the Agricultural Research Sub-Committee.*

The President proposed :—

RESOLUTION.—“ That the Report of the Agricultural Research Sub-Committee be adopted.”

The resolution was supported by Sir Madhaorao Deshpande and carried.

SUBJECT 73.—*Report † of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet as at 31st March 1937.*
- (b) *Final Accounts, 1936-37.*
- (c) *Revised Estimates, 1937-38.*
- (d) *Budget for 1938-39 (Government servants).*

The President suggested that the paragraph 32 of the Report of the Standing Finance Sub-Committee containing its findings should not form part of the printed proceedings of the Committee. It was substituted by the words, “ the matter has been fully considered and necessary steps have been taken to deal with the question.

The President moved :—

RESOLUTION.—"That the Report of the Standing Finance Subcommittee as amended be adopted."

"That the Balance Sheet as at March 31st, 1937, be approved."

"That the Final Accounts for 1936-37 be approved."

"That the Revised Estimates for 1937-38, as amended now, be approved."

"That the Budget for 1938-39 for Government servants be approved subject to such modifications as may be necessary consequent on the change of Secretaryship."

The resolution was seconded by Mr. Chellaram Shewram and carried unanimously.

SUBJECT 74.—*Prohibition of import of foreign cotton seed and kapas into the Maritime States of Kathiawar.*

The President moved :—

RESOLUTION.—"The Indian Central Cotton Committee notes with pleasure that the Kutch Durbar has agreed to co-operate in prohibiting the import into the Kutch State of all foreign cotton seed and kapas. The Committee trusts that those maritime States who have not yet signified their agreement with the policy will also fall in line at no distant date."

The resolution was carried.

SUBJECT 75.—*Import of cotton into Bhawani Mandi from outside Malwa Plateau.*

The President moved :—

RESOLUTION.—"The Indian Central Cotton Committee records its thanks to the Jhalawar Durbar for the very thorough inquiry undertaken by them to ascertain the extent to which outside cotton is imported into the State and trusts that no time will be lost in adopting legislative measures to prevent such imports if and when found necessary."

The resolution was unanimously carried.

SUBJECT 76.—*Central Provinces Cotton Control Act,* 1937.*

The President moved :—

RESOLUTION.—"The Indian Central Cotton Committee places on record its appreciation of action of the Government of the Central Provinces in passing the Central Provinces Cotton Control Act which has for its object the eradication of Garrowhill cotton. The Committee has no doubt that the suppression of this cotton is in the best interest of the growers of better quality cotton in the Provinces and trusts that early steps will be taken to frame the required rules under the Act and apply them where necessary."

* Appendix VIII (page 66).

The resolution was carried.

SUBJECT 77.—*Bhopal Cotton Control Bill.**

The President moved :—

RESOLUTION.—“ The Indian Central Cotton Committee welcomes the action of the Bhopal Durbar in taking steps to introduce legislation for the cultivation of superior cotton in the State.”

The resolution was carried.

SUBJECT 78.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The Secretary's note on the above subject was recorded.

SUBJECT 79.—*Institution of Revised System of Blind Surveys. Amendments to the Bye-laws of the East India Cotton Association.*

The Secretary's note was recorded.

SUBJECT 80.—*Cotton policy in Gujerat—Reference from the Bombay Government.*

As the suggestion was made that owing to the absence of Sir Purshottamdas Thakurdas, Sir Bryce Burt and Mr. Kasturbhai Lalbhai, the consideration of the question might be postponed, Mr. Jenkins pointed out that the Bombay Government had definitely asked for the advice of the Committee and there was no use in patting off this issue. The question was that the entire distribution of the seed in the Surat tract depended on the decision of the Committee. Though he would welcome the opinion of the gentlemen concerned the matter was very urgent and the position reached was so acute as not to brook any delay.

At the suggestion of the President it was agreed that the question should be considered by the Local Sub-Committee as soon as Sir Purshottamdas, Mr. Kasturbhai Lalbhai and Sir Bryce Burt returned from England and that the recommendations of the Local Sub-Committee be communicated to the Bombay Government.

SUBJECT 81.—*Third Annual Report of the Lancashire Indian Cotton Committee—Remarks of members.*

The President drew the attention of the Committee to the suggestion made that the samples of Indian cotton should be sent to Lancashire to be tested under local conditions. The next question was as to what samples should be sent and the cost of sending them. He proposed that the President should get in touch with the Lancashire Indian Cotton Committee and deal with the matter personally.

He had a communication from Sir Bryce Burt that the Lancashire Committee was pursuing the matter with success. Lancashire's complaint was that they were not getting regular supplies of staple cotton.

Mr. Jenkins said that if thousands of bales of Gujerat cotton had gone to Lancashire he did not understand the complaint.

Dr. Nazir Ahmad wanted to know from Lancashire what was the percentage of Indian cotton consumed in Lancashire, as also the different varieties of Indian cotton used there.

The President assured that the Secretary would try to get the information required.

SUBJECT 82.—*Growing of Cotton in United Provinces—Reference from the Upper India Chamber of Commerce.*

It was explained by Mr. Richards that the proper course for the Chamber was to correspond with the United Provinces Government and unless that was done he was not personally prepared to discuss the matter.

The President, in reply to the appeal for a seed distribution scheme for the United Provinces, said that there was one already started by the Committee. The matter would be further taken up at the next meeting of the Committee.

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 83.—*Early morning broadcast of cotton prices.*

As the discussion on the subject brought forth a divergence of views as to suitability of the time at which the broadcast of prices should take place, so as to be useful to the cultivators, the President suggested that he would bring these difficulties to the notice of the Broadcasting authorities and request them not to proceed in the matter without further consultation.

The President's suggestion was agreed to.

SUBJECT 84.—**Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936—Draft Rules under—Reference from the East India Cotton Association.*

The President moved :—

RESOLUTION.—“That the letter of the East India Cotton Association be forwarded to the Government of Bombay with the remark that this Committee adheres to its previous opinion and considers that the admixture of 2 per cent. seed will be tantamount to nullify the provisions of the Act. Regarding the moisture also the Committee does not agree with the opinion of the East India Cotton Association. The Committee, however, agrees with the view of the Association as regards the license fee which should not be more than Rs. 100.”

Members were unanimous as to the need of checking the malpractice of watering the bales but were divided on the question of advisability of allowing admixture of 2 per cent. seed. It was even pointed out that if the permissible limit was raised to 22 per cent. it would constitute a new evil to the trade and the loss suffered by the millowner per bale would be great.

Dr. Nazir Ahmad said that it was not quite right for the East India Cotton Association to say that there was no sufficient data to determine the normal moisture contents of a bale. A good deal of information

had been placed before the moisture Testing Committee of the East India Cotton Association. The Association had already prescribed certain limits for moisture tests and he was personally carrying out moisture tests for the Appeal Committee of the East India Cotton Association. He also disagreed with the suggestion of the Association that the moisture tests should not be carried out in Bombay as it was contrary to practice. The practice of carrying out tests in Bombay will be in consonance with the practice obtaining abroad in such places as Manchester, Milan and Zurich where arrangements were available for the mill to carry out moisture tests. What was important was to know the moisture contents in the bale at the time of spinning, and not at the time of pressing or ginning.

The President remarked that the consensus of opinion was in favour of the resolution and as the Committee had already forwarded its views to the Government of Bombay, it only remained to forward the letter of the Association, with the views of the Committee, to the proper authorities.

The resolution was carried.

SUBJECT 85.—*Proposed Broadening of the Broach Hedge Contract.*

The Secretary's note was recorded.

SUBJECT 86.—*Vote of thanks to the Committee passed at the Conference of Scientific Research Workers on Cotton in India.*

The Secretary's note was recorded.

SUBJECT 87.—*Spread of leaf curl disease from hollyhocks to cotton in the Punjab—Reference from the Conference of Scientific Research Workers on Cotton.*

The Secretary's note was recorded.

SUBJECT 88.—*Final Report on Hyderabad Cotton Survey Scheme—Recommendations for improvement of Cotton in Hyderabad State—Reference from last meeting of the Committee.*

SUBJECT 89.—*Revision of Standard yield figures of cotton in :—*

- (1) *Bombay Presidency,*
- (2) *Sind.*

The Report of the Agricultural Research Sub-Committee on the above subjects was adopted.

SUBJECT 90.—*Looms for weaving artificial silk—Orders from India—Letter from Lala Sri Ram.*

The Secretary's note was recorded.

SUBJECT 91.—*Deficiency in the supply of pure 289-F seed for cultivation in Sind—Letter from Messrs. Narandas Rajaram & Co.*

SUBJECT 92.—*Cultivation of quality cottons in Sind—Letter from Messrs. Narandas Rajaram & Co.*

It was brought out in the course of the discussion that the problem of Sind was the want of a financial agency to guarantee the distribution of seed. This resulted in the indiscriminate use by the cultivator of the various kinds of inferior seeds from the Punjab in preference to the

Sind-Sudhar 289-F which was in great demand by the Indian Millowners, England, Germany and other parts of the world. The total amount of the Sind-Sudhar seed distributed was about 24,600 maunds against the demand of 2 lakhs maunds of seed for Thar and Parkar District alone. Other superior varieties, viz., Boss III and Sea-Island cottons, could only be grown in Sind and for which there was a great demand but when the grower produced these cottons he could not fetch the right price. A demand for bounty out of the import duty was suggested and the Committee was approached for financing the seed distribution in Sind.

The Director of Agriculture, Sind, said that what was wanted in Sind was a financial agency and he would suggest that if the Committee or some other agency were to give him Rs. 2 lakhs for six months every year for five years he would be able to guarantee a continuous supply of seed for the grower. Seed multiplication was carried on in Sind and 70,000 acres would be under improved seed distributed by the Agricultural Department. To a query by the President it was stated that the Government had come to the rescue of the Agricultural Department by supplying to the extent of 25,000 maunds of seed.

Regarding the superior cottons—Boss III and the Sea-Island—The Director of Agriculture, Sind, said that from the agricultural point of view there was scope for investigation as the yield was only half of 289-F and perhaps with better facilities, might reach two-thirds of the yield of 289-F. Unless the trade was prepared to pay a better price the cultivator would not be induced to grow having once burnt his fingers.

It was agreed that a scheme for further research on quality cottons in Sind should be submitted.

The President moved :—

RESOLUTION.—"That Rao Saheb Thadani should prepare a considered scheme for financing seed distribution in Sind and submit it for consideration of the Committee at the next meeting."

The President thought that it was not right that the Committee should be called upon to finance loss so that the trade might be able to purchase some quality cottons. A perfect marketing organisation would meet the need of the case. He was also against the grant of bounty.

The resolution moved by the President was carried.

SUBJECT 93.—*Provincial Cotton Committees—Proceedings of the Central Provinces Provincial Cotton Committee.*

The Secretary's note was recorded.

SUBJECT 94.—*Resume of the Minutes of the meeting of the Inter-National Cotton Committee held at Amsterdam on 4th May 1937.*

The President suggested that the selection of representatives should be done after the Secretary had ascertained from the members who were likely to be abroad so that the Committee might be saved the expense.

This was agreed to.

SUBJECT 95.—*Question of balancing the Budget of the Committee.*

The general feeling of disappointment in the trade at the lack of visible success of the activities of the Indian Central Cotton Committee was given vent to by several members. After tracing the history of the body since its inception in 1921 till 1930 when the Indian Central Cotton Committee was, in the words of one of the members, a happy family, the beginning of the trouble started when the Standing Finance Sub-Committee took stock of the affairs of the body. It came to the decision that the progress for 9 years, after spending from 30 to 40 lakhs, was not satisfactory. As a result of this finding the various trade associations and millowners were circularised and asked for their opinion as to whether cotton had improved or deteriorated during these years. As it was their considered opinion that cotton had deteriorated, the Directors of Agriculture were summoned and asked to put up their schemes for the improvement of cotton. Since 1930 till 1935 schemes were freely extended and the resources of the Committee were expended more quickly than the income at the disposal of the Committee. In 1935 it was thought a brake should be applied to this headlong career of spending money. However, opinion on the matter was sharply divided between the Agricultural and the trade members of the Committee. It was suggested by the agricultural members that the schemes did a great amount of good to the country and if the funds of the Committee did not permit the Government should be approached to increase the cess. Trade members were deadily opposed to the proposal of increasing the cess and went to the length of suggesting that if the proposal of increasing the cess was seriously considered, they as a body would urge for the entire cessation of cess. The Committee then passed a resolution that the expenditure on the various schemes should be carried from the reserves till the balance of Rs. 9 lakhs remained.

Since the resolution of 1935 the Standing Finance Sub-Committee had given serious consideration to the affairs of the Committee and came to the conclusion that both from the financial and other points of view the Indian Central Cotton Committee was not functioning as it should be. There were various reasons given for this state of affairs, chief amongst them being the lack of co-operation between the Standing Finance Sub-Committee and the Agricultural Research Sub-Committee, the unmethodic way in which schemes were ushered, in the absence of any thought on the expenditure on a particular scheme with the possible return or benefit to the Committee. The net result of this lack of co-ordination was that the Standing Finance Sub-Committee was reduced to the position of merely the cashiers.

Two resolutions were, therefore, proposed which aimed at securing the maximum amount of co-operation between the agricultural members and the trade members and at securing a business-like working of the Committee. The plan in a nutshell was as follows :—The Agricultural Research Sub-Committee at the monsoon meeting of the Committee should put forward their various schemes and these schemes would be fully debated in the full Committee with reference to the financial position of the Committee. The monsoon meeting of the Committee would decide how much money was at its disposal for the coming year and the Agricultural Research Sub-Committee would then be asked to give a lead to the Standing Finance Sub-Committee as to the importance of the various schemes submitted. On the information supplied by the

Agricultural Research Sub-Committee the Standing Finance Sub-Committee would then prepare a rough expenditure for the various schemes and then forward them to the Directors of Agriculture and the members of the Agricultural Research Sub-Committee for their opinion. When the full Committee met again in cold weather the budget would be considered in the light of the joint deliberation of all the members and also the technical opinion of the Research Sub-Committee and the Directors of Agriculture. The Secretary would then be in a better position to present the budget estimates to the Committee. This arrangement would enable the Standing Finance Sub-Committee to take orders from the Committee and not alter the ratio of percentages decided upon.

In making these proposals the mover was keen on making it clear to the Directors of Agriculture how much the members of the Standing Finance Sub-Committee wanted their help and advice; he would also like to point out that his suggestions should be accepted on the ground that the trade was supplying the cess for he knew that the cess was really paid by the grower. In the end he would like to mention that the present state of affairs was not due to any unwillingness on the part of the agricultural members to co-operate but to the inherent defect in the system of working of the Committee.

While agreeing with the mover that there was some justification for the feeling amongst the trade members that the return of the activities of the Committee were not commensurate with the amount that had been spent, one of the members was against the proposal of not touching the balance of Rs. 9 lakhs. The balance of Rs. 9 lakhs represented the cess money which had been obtained for a definite purpose and the Committee had no right to preserve the balance intact and at the same time go on collecting the cess. The only justification for the continuance of the cess was for a definite purpose, *viz.*, the benefit of the cotton growing and manufacturing industry and that purpose could only be achieved by carrying out a definite programme and extending the activities of the Committee. The question was fully discussed in the meeting of the Millowners' Association and to the move of asking the Government to stop the cotton cess altogether his answer was that the Indian Central Cotton Committee had a larger programme and that the money that the cess was bringing in was necessary for utilizing it for the purpose for which it was collected. He was, therefore, opposed to a reversal of a policy laid down after a mature consideration. He, therefore, moved :—

RESOLUTION.—"That the resolution of the Standing Finance Sub-Committee be sent back to the Sub-Committee for reconsideration after Sir Purshotamdas Thakurdas had returned."

Another member thought that the resolution of the Finance Sub-Committee did not mean that the Committee should not draw from its reserves of Rs. 20 lakhs. This amount would be spent if the schemes proposed were profitable, otherwise not. In the current year the Committee would be drawing from Rs. 2 to 3 lakhs from its reserve and if the question was postponed the surplus would be depleted still further. He, therefore, moved in amplification of the resolution of the Standing Finance Sub-Committee the following resolution :—

1. "To enable the best possible use of the Indian Central Cotton Committee funds it is firstly resolved that the total expenditure of the

Committee should be financed out of the income and that the present reserves should only be drawn on in very exceptional circumstances, and then only to a limited degree.

2. To effect the maximum co-operation between the Standing Finance Sub-Committee and the Agricultural Research Sub-Committee, it is resolved that the Agricultural Research Sub-Committee shall report at each monsoon meeting on the degree and importance of all the Schemes and do its best to grade them in order of merit."

"The Standing Finance Sub-Committee during the period between the monsoon meeting and the cold weather meeting will budget according to the existing financial position of the Committee and allocate maximum funds possible to each scheme.

The provisional budget will be circulated to the Agricultural Research Sub-Committee and will thereafter be considered at a joint meeting of the Agricultural Research Sub-Committee and the Standing Finance Sub-Committee to be held just before the cold weather meeting.

From the general discussion of the joint meeting the yearly budget will be prepared and presented to the full Committee for approval.

3. "To ensure the best possible distribution of available funds, it is resolved that the Standing Finance Sub-Committee and the Agricultural Research Sub-Committee should work to a fixed percentage when allocating grants to all the items of expenditure to be incurred by the Committee each year.

This percentage shall be decided at the monsoon meeting each year, and cannot be appreciably varied during any one year."

Continuing the member moved another resolution :—

"The Indian Central Cotton Committee requests the Secretary to prepare and circulate before the end of October, a small abstract statement in non-technical language, stating what tangible and commercial results and benefits have accrued or have been achieved by the cultivator and the trade till now since the inception of the Committee with regard to the amount of about Rs. 49,00,000 spent under the heads Cotton Breeding and Botanical Schemes, Indore Institute and other schemes including Statistical Research and also the amount of about Rs. 25,00,000 for technological research given in the abstract statement before the Committee out of the total expenditure of about Rs. 1,08,90,000 to date. The Committee requests the Standing Finance Sub-Committee to examine and review the above results and expenses in the light of available funds, and recommends it to prepare its budget for the year 1938-39 in accordance with the importance of the various results. The Committee draws the attention of the Standing Finance Sub-Committee that there is growing belief with the cultivator and the merchant class that the funds of the Committee are not utilised to the best advantage, and that the results achieved by the Committee are meagre in comparison to the expenses incurred."

Dr. W. Burns in a brief survey of the activities of the Committee refuted the erroneous impression created by the previous speakers that

the Committee had all these years of its existence not delivered the goods. It was easy to offer general criticism but he thought it worthwhile to examine in order to see what goods had been so far delivered. On the credit side of the Committee he would mention the number of new cottons evolved like Jayawant, Jarila, Cambodia, 43-F, Jubilee and others. With regard to the prevention and remedying of the various diseases and the breeding of resistant varieties a great amount of work was achieved. A great amount was spent on the Technological Laboratory and the Institute of Plant Industry, Indore, but not without results. He doubted whether the critics had cared to acquaint themselves with the efforts of the Publicity Officer. Considering the number of workers and the magnitude of the task as also the record of progress achieved in acres the good results recorded would be apparent. The research programme of the Committee had been revised twice but nothing should be done in a hurry. He was for closer co-operation between the Agricultural Research Sub-Committee and the Standing Finance Sub-Committee and was also for a priority list of schemes.

The President in explaining the resolution observed that howsoever carefully planned and devised the schemes might be there was usually room for criticism. There was a feeling in the Committee that the best results were not obtained for the money spent and that as far as possible savings should not be drawn ordinarily to meet recurring expenses. The President thought that the best course for them was to follow the policy of the Imperial Council of Agricultural Research. The Council had generally a large number of schemes awaiting financial allotment. The system followed was for the Vice-Chairman in consultation with his experts to prepare a priority list and allocate the money available to various branches. A similar scheme should be followed by them so that both the trade and the scientists would have no cause for complaint. After their Agricultural Research Sub-Committee had carefully scrutinised various schemes they should pass them on to the President who would after consulting some of the members, would draw up a priority list and would decide which scheme needed immediate finance. Boiled down the discussion came to this, *viz.*, whether the Committee should ordinarily draw upon its reserves or not to meet recurring expenditure. The President's answer to this was that as far as possible the Committee should not draw upon its reserves but if there were schemes of first rate importance the reserves should be used for financing them.

The President inquired whether it would meet with the wishes of the members if the first part of the resolution of the Standing Finance Sub-Committee were to read as follows :—

"The Sub-Committee feel that as it is desirable to keep the annual expenditure of the Committee within the yearly income, the Agricultural Research Sub-Committee should be requested to put up schemes so that it should not be ordinarily necessary to draw upon the reserves for financing the current expenditure on the various schemes."

After a little discussion the President said that their present intention was to draw up a priority list of new schemes and to finance them in order of their relative importance.

Mr. Saklatvala's resolution was carried.

Mr. Saklatvalla moved :—

RESOLUTION.—"That the Committee places on record its appreciation of the work of Mr. Rama Reddi as Secretary of the Committee and wishes him every success in his future career."

The resolution was carried with acclamation.

Mr. Saklatvalla in moving "a very hearty vote of thanks" to the President thought it right that the Committee should express its appreciation of the very tactful manner in which the President had handled the proceedings of the meeting. The Committee had been fortunate in possessing as its Presidents men of great ability, tact and resourcefulness and Mr. Mehta was no exception.

The President expressed his gratefulness to the members of the Committee for the encouragement given to him. He considered the Committee to be a body of men with great traditions and expressed his thanks for the great indulgence given to one who had no previous experience of it.

R. D. MIHRA,

Publicity and Propaganda Officer.

RESOLUTIONS.

No.

Appointment of cotton growers' representatives of the Committee to the Board of Directors of the East India Cotton Association.

- 1 "That the present members, Mian Nurullah, Mr. M. P. Kolhe and Sardar Rao Bahadur Bhimbhai R. Naik, be appointed for another term of one year as cotton growers' representatives of the Committee on the Board of Directors of the East India Cotton Association "

Half-yearly Report of the Publicity and Propaganda Officer.

- 2 "That the Half-yearly Report of the Publicity and Propaganda Officer be approved "

Draft Rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936.

- 3 "That the letter of the East India Cotton Association be forwarded to the Government of Bombay with the remark that this Committee adheres to its previous opinions and considers that the admixture of 2 per cent. seed will be tantamount to nullify the provisions of the Act. Regarding moisture also the Committee does not agree with the opinion of the East India Cotton Association. The Committee, however, agrees with the view of the Association as regards the license fee which should be not more than Rs. 100 "

Balancing the Budget of the Committee.

- 4 "That the resolution of the Standing Finance Sub-Committee be sent back to the Sub-Committee for reconsideration after Sir Purshotamdas Thakurdas had returned " ..

Cultivation of quality cottons in Sind.

- 5 "That Rai Saheb Thadani should prepare a considered scheme for financing seed distribution in Sind and submit it for the consideration of the Committee at the next meeting "

Report of the Cotton Forecast Improvement Sub-Committee.

- 6 "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted "

Report of the Special Sub-Committee on Wider Markets for Indian cotton.

- 7 "That the Report of the Wider Markets Sub-Committee be adopted "

- 8 "That the suggestion regarding an overseas organisation be approved in principle and a proper scheme be worked out and put up before the next meeting of the Wider Markets Sub-Committee. The suggestion might be examined further by the Standing Finance Sub-Committee and with their approval the scheme might be put before the full Committee "

Progress Report of the Director, Technological Laboratory.

- 9 "That the Progress Report of the Director, Technological Laboratory, be approved "

No.

Report of the Technological Research Sub-Committee.

- 10 "That the Report of the Technological Research Sub-Committee be adopted"

Report of the Agricultural Research Sub-Committee.

- 11 "That the Report of the Agricultural Research Sub-Committee be adopted"

Report of the Standing Finance Sub-Committee.

- 12 "That the Report of the Standing Finance Sub-Committee as amended be adopted"

"That the Balance Sheet as at March 31st, 1937, be approved"

"That the Final Accounts for 1936-37 be approved"

"That the Revised Estimates for 1937-38, as now amended, be approved"

"That the Budget for 1938-39 for Government servants be approved, subject to such modifications as may be necessary consequent on the change of Secretaryship."

Prohibition of import of foreign cotton seed and kapas into maritime States in Kathiawar.

- 13 "The Indian Central Cotton Committee notes with pleasure that the Kutch Durbar has agreed to co-operate in prohibiting the import into the Kutch State of all foreign cotton seed and kapas. The Committee trusts that those maritime States who have not yet signified their agreement with the policy will also fall in line at no distant date"

Import of cotton into Bhawani Mandi from outside Malwa Plateau.

- 14 "The Indian Central Cotton Committee records its thanks to the Jhalawar Durbar for the very thorough enquiry undertaken by them to ascertain the extent to which outside cotton is imported into the State and trusts that no time will be lost in adopting legislative measures to prevent such imports if and when found necessary"

Central Provinces Cotton Control Act, 1937.

- 15 "The Indian Central Cotton Committee places on record its appreciation of the action of the Government of the Central Provinces in passing the Central Provinces Cotton Control Act which has for its object the eradication of Garrow Hill cotton. The Committee has no doubt that the suppression of this cotton is in the best interests of the growers of better quality cotton in the Provinces and trusts that early steps will be taken to frame the required rules under the Act and apply them where necessary"

Bhopal Cotton Control Bill.

- 16 "The Indian Central Cotton Committee welcomes the action of the Bhopal Durbar in taking steps to introduce legislation for the cultivation of superior cotton in the State"

Appreciation of work of Mr. Rama Reddi.

- 17 "That the Committee places on record its appreciation of the work of Mr. Rama Reddi as Secretary of the Committee and wishes him every success in his future career."

APPENDIX I.

SUBJECT 8.—*Half-yearly Report of the Publicity and Propaganda Officer.*

Extension of the Publicity and Propaganda service of the Indian Central Cotton Committee during the last few years has been noteworthy. How remarkable and yet how the future is brought with great potentialities are well indicated in the half-yearly progress reports which record contacts secured through wide press publicity—both in India and abroad—and describe definite regional propaganda campaigns organized for dealing with specific cotton problems in point of results.

During the half-year now under review, the Publicity and Propaganda Branch of the Committee continued its useful work of Publicity for disseminating a wide variety of knowledge of the improvements effected in the quality of Indian Cotton in popular language not only to the cotton grower, the trade and members of legislatures in India but to foreign bodies interested in the Indian Cotton Industry through the medium of the press.

The last half-year marked an important expansion of the informational service and one which should be of considerable publicity value to the Indian Central Cotton Committee, namely the securing of co-operation and goodwill of the United Press of India—an important news agency—as an aid to the general programme of broadcasting information on the Committee's varied and wide activities, who made a special request for copies of *Communiqués* and other publicity material for distribution to the leading newspapers in the country. The United Press of India is the leading Indian news agency recently started, having as many as 75 prominent daily newspapers all over India. Having branches in almost all the important centres in India, the task of acquiring greater publicity and propaganda to the activities of the Committee will become easier.

This represents only a part of the publicity secured by means of *Press Communiqués* and press notes. Illustrated pamphlets, leaflets, bulletins, brochures, posters, etc., in different languages have formed an equally important part and in this direction considerable progress has been made to diffuse knowledge of findings of economic value.

Propaganda work to increase the material sources of the prosperity of the cultivator is one of the main activities of the Publicity and Propaganda Branch of the Committee. In this respect the activities of the Publicity and Propaganda Officer included a visit to Lyallpur to collaborate with the Department of Agriculture, Punjab, for making plans for the furtherance of the clean-up campaign against the Spotted Boll-worm in the districts of Lyallpur and Jhang, so that the fruits of experimental work may be carried to the grower and other interests concerned.

Opportunity was taken by the Publicity and Propaganda Officer's visit to the Punjab, who also directed his efforts to intensify interest in the newspapers of Lahore and interviewed Editors, so that they might attach greater importance to the Committee's work and continue making references to the *Communiqués* issued by its Publicity and Propaganda Branch. His visit showed that it was profitable to get personally in touch with the Editors of newspapers and to arrange for a much better distribution of the Publicity material.

Wide Press Publicity.

During the period under review, the general progress obtained has been maintained. *Communiqués* on the following subjects of scientific interest as well as practical importance by the Publicity and Propaganda Officer were sent to a large number of newspapers in all parts of India and received a wide publicity:—

Press Communiqués.

1. *The 34th Half-yearly Meeting of the Indian Central Cotton Committee.*—A *Press Communiqué* giving a short description of the important discussions at the meeting of the Indian Central Cotton Committee held on the 2nd and 3rd March 1937, like the widening of the Broach Hedge Contract, measures to bring closer contact between the Technological Laboratory and the mill industry, and several other matters of vital interest to the industry.

2. *Conference of Cotton Research Workers.*—This was a press note on the important Conference of Scientific Research Workers on cotton in India—the first of its kind in India—indicating the papers on many technical and scientific questions connected with the improvement of cotton from a purely scientific standpoint which were read and discussed at the Conference.

3. *Improvement of Cotton in India in 1935-36.*—This *Communiqué* reviewed the work of the Indian Central Cotton Committee during the year ending 31st August 1936, in the development of India's premier industry, particularly in the direction of growing long staple cottons in the present short staple cotton areas ; legislative measures for better growing and marketing of cotton ; compilation of cotton statistics ; agricultural and technological research carried on directly under the auspices of the Committee and that promoted through subsidies granted to the Departments of Agriculture in different provinces and States of India ; and promotional activities like the seed extension schemes.

4. *Spinning Tests on Mixtures of Staple Fibres and Indian Cottons.*—This press note dealt with the investigations conducted to ascertain how far could staple fibre be successfully mixed and blended with cotton ; and conclusions arrived at by the Director, Technological Laboratory, Matunga, on spinning tests carried out on mixtures of staple fibres and Indian cottons.

5. *Indian Cotton and Lancashire Indian Cotton Committee's Work.*—This press note gave publicity to the work of the Lancashire Indian Cotton Committee, which was established in pursuance of the Ottawa Agreement, to encourage the policy of economic reciprocity with particular reference to the cotton industry. It reviewed activities contained in its 3rd Annual Report, mentioning the various means adopted by that Committee with a view to keeping Indian cotton constantly before the various sections of textile cotton industry of the United Kingdom and thus increasing its use.

6. *Guide to Indian Cottons.*—This press note reviewed the joint publication of the Indian Central Cotton Committee and the East India Cotton Association, called a "Guide to Indian Cotton." A wide variety of information of value dealing with the characteristics of Indian cottons under Bengals, Broach, Oomras and Southern is given in detail in this guide. The press note brought out clearly the authoritative character of the information contained in the guide and its value to the trade.

7. A press note was issued in connection with the 35th Meeting of the Committee and widely distributed among presses in India. It mentioned the subjects, the various Sub-Committees were entrusted with and the important subjects which will come up for discussion at the full Committee meeting.

8. A special article discussing the merits and real facts regarding Indian cotton was written. This was distributed among the newspapers all over India.

9. *The Spotted Boll-worm Pest in the Punjab and the Method of Combating it.*—This article has been prepared for the Press in order to enlist the goodwill and co-operation of the general public in the Punjab and ensure their vigilance in connection with the propaganda campaign organised by the Department of Agriculture to combat the colossal loss caused to the cotton crop of the Province by the ravages of the Spotted Boll-worm.

10. *Elimination of Garrow-hill Cotton in Central Provinces.*—To eliminate the inferior Garrow-hill cotton which is likely to prove a source of embarrassment to the success of recently approved schemes introduced for the spread of extension of medium staple cotton for which Central Provinces and Berar are so eminently suited, the above article has been prepared for the press for propaganda purposes.

The article calls attention to the rapid spread of this variety which has lowered the reputation of superior local cotton and the efforts of the Provincial Department of Agriculture to arrest its progress ; legislative measures recently enacted making the cultivation of Garrow-hill as penal offence ; and invites the co-operation of cultivators and the trade to secure the elimination of this inferior variety from the province.

Pamphlets.

The production and distribution of Publicity and Propaganda literature in the form of illustrated pamphlets, leaflets, handbills and articles to the press has been an important function of this division. Some of these have been designed to promote the special interest of regional campaigns, while others covered a wide range of subjects connected with the production, marketing and manufacture of cotton in India. The latter show what is being done to improve the quality of Indian cotton and increase the earnings of the cultivators.

1. *Danger of spread of Garrow-hill Cotton.*—This pamphlet is specially prepared to further the propaganda campaign in the Central Provinces and thus to eliminate the inferior Garrow-hill cotton, which has been instrumental in lowering the reputation of superior local varieties and spelling financial ruin to the province in general and the cultivators in particular. The draft has been submitted to the Director of Agriculture, Central Provinces, and after approval it will be printed in English, Marathi and Hindi languages and distributed in large numbers.

2. *Summary Proceedings of the 34th Half-yearly Meeting.*—In order to supply members of Chambers of Commerce, trade associations, co-operative societies and Indian legislatures with a summary of discussions in a less formal manner of the subjects that came up for consideration at the 34th half-yearly meeting of the Committee, setting forth the main points brought out during the discussions without mentioning the names of the speakers, was prepared by the Publicity Officer. This obviates the necessity of going through a large number of connected papers and simplifies reading of decisions of important problems.

3. *The Spotted Boll-worm Pest of Cotton and How to Control It.*—This pamphlet is specially written for the guidance of cotton growers in Canal Colonies and Western Punjab to exterminate the Spotted Boll-worm Pest, which attacks extensive areas of cotton in these tracts and causes a loss of several lakhs every year to the cotton crop in that area. The outbreaks can be controlled by uprooting entirely cotton stalks left in the fields after the harvest or at least to cut them 2 inches below the soil by means of an effective implement called the *kudali* between January and March and cutting of the host plants of *Gulckhera*, *Bhindi*, and *Kangi Booti*, from which it receives nourishment. Good use will be made of this illustrated pamphlet to stimulate the progress of the propaganda campaign and supplies will be made not only to the cultivators but also to the educational and other institutions who could exercise beneficial influence on work to be carried effectively.

4. *"Indian Central Cotton Committee—Its objects, activities and achievements"—Tamil and Telugu versions.*—In order to reach wider public this pamphlet besides being published in English, Hindi, Urdu, Marathi and Gujarati has been brought out in Tamil and Telugu as well. It deals generally with all the outstanding activities of the Committee as a whole, is profusely illustrated and is distributed to Provincial Departments of Agriculture, Chambers of Commerce, Co-operative Societies and important trade bodies. Previous issues have been well received both by the press and the public.

Handbill.

5. *Destroy Spotted Boll-worm and Improve Cotton Quality.*—The above handbill is to help forward the propaganda campaign against the Spotted Boll-worm Pest of cotton in the Punjab. The handbill calls pointed attention to the danger done to the cotton crop by the pest and enlists co-operation for avoiding the loss by the timely adopting of control measures.

Posters.

The Publicity and Propaganda Branch of the Committee has continued to pursue and extend its efforts at poster propaganda. Unquestionably, special Posters, which have been brought out hitherto, bear testimony to the stimulus with which their force of appeal have been characterised. During the period under review the Publicity and Propaganda Officer has been devoting a good deal of attention to the preparation of 2 new posters in consultation with the Provincial Departments of Agriculture concerned. These and others which have since been printed are described below :—

1. *The Spotted Boll-worm Pest of cotton and how to control it.*—The two sketches of this poster designed to help forward the anti-spotted Boll-worm campaign in the Punjab were prepared and sent to the Punjab Agricultural Department for perusal and expression of opinion. One of the sketches illustrates a cart load of infested *kapas* being taken to the market and the cultivator haunted by Spotted Boll-worms and looking extremely puzzled approaches a happy cotton grower on the way side who secured a better and bigger crop as the result of cutting the stubbles 2" below the soil and thus destroying the pest. Beneath the inset is a cotton boll attacked by the Spotted Boll-worm and on the right there are illustrations of *kudali* in action and a well opened crop of cotton.

The other sketch illustrates two cart loads of affected and clean *kapas* respectively, on their way to the market. The cultivator of the damaged crop is shown haunted by the Spotted Boll-worm and looking grief stricken. He listens attentively to the owner of the clean *kapas* on the right who holds smilingly *kudali* on his shoulder with the right hand and a quantity of clean *kapas* in his left hand. A huge Spotted Boll-worm is shown crushed under his feet. The right inset shows the *kudali* in action.

Suitable captions are provided on the sketches which may be available on view at this meeting of the Committee.

2. *Evil Effects of Watering Cotton*.—The sketch of this poster to educate the cotton ginning and pressing factory owners and other interests in Central Provinces was prepared and sent to the Department of Agriculture, Central Provinces. The three main features of the sketch are (1) a ginning and pressing factory, (2) hose pipes connected with water tanks and (3) a heap of cotton. Two men holding hose pipes are shown engaged in watering the heap of cotton which lies next to them. 'Watering of cotton is harmful' is the headline of the caption which calls attention to the general economic loss sustained by the industry as the inevitable result of this malpractice.

3. *Anti-Goghari Propaganda Poster*.—This poster was prepared to help forward the campaign for giving effect to the Anti-Goghari Act in Surat tract of the Bombay Presidency and a similar act in the Baroda State territories adjoining the Surat district, where the inferior Goghari cotton is grown. This short stapled coarse variety has been responsible for the deterioration in the quality of 1027 A.L.F.

The poster clearly illustrates the difference in the green bolls of 1027 A.L.F. and the inferior Goghari. These posters were displayed in the cotton growing areas where Goghari is still persisting and were intended to help growers to differentiate the green bolls of the superior variety from those of the inferior Goghari and thus to eliminate the undesirable variety.

4. *B. D. 8 Poster*.—This poster was printed to bring out the outstanding characteristics of B.D. 8 cotton, such as superior spinning qualities, resistance to wilt, greater lint outturn per acre and better monetary returns in contrast to wilt susceptible and low spinning performance of Goghari cotton. A sufficient number of copies were supplied to the Director of Agriculture, Bombay Presidency, Poona, to stimulate interest in the extension of B.D. 8 drive in Gujerat in preference to Goghari. The poster is now on view.

Exhibitions.

The Indian Central Cotton Committee participated in two Exhibitions during the period under review held at Delhi and Bombay; the first named was held under the auspices of the Association for the development of Swadeshi Industries and Fair, Ltd., Bombay. The Publicity branch of the office co-operated with the Director, Technological Laboratory, and contributed publicity and propaganda literature, posters, etc., for the stalls, which were visited by large numbers.

Tours.

During the period under review, the Publicity and Propaganda Officer of the Committee was called upon to visit Lyallpur to attend a conference which had for its object the planning and extension of the projects of the Department of Agriculture to fight the scourge of the Spotted Boll-worm Pest of cotton which is responsible for great damage to the cotton crop in the Punjab. A campaign which will in the first instance be restricted to the districts of Lyallpur and Jhang, will later on be extended to the whole of the Canal Colonies and Western Punjab, where this pest is rampant. An interesting part of the campaign will not be merely the distribution of *kudalis* to cut the stubbles 2" below the soil in order to destroy the mainstay of the pest, but also propaganda by means of demonstrations, lectures, handbills and propaganda posters.

The tour of the Publicity and Propaganda Officer resulted in much useful discussion with the Entomologist to the Government of Punjab and the Deputy Director of Agriculture, Lyallpur, and an inter-exchange of views on research results and suggestions for the propaganda campaign.

Contact was established with district and local civil authorities and important persons of like interest which proved of considerable value.

The consolidation of old contact and the securing on many new ones, was the principal object of Publicity Officer's visit to Lahore. The Editors of papers were interested in the Committee's work by means of personal calls, interviews and distribution of publicity literature in order to create public opinion. The co-operation of the Punjab Press with the programme of improvement of Indian Central Cotton Committee has placed the Committee in stronger position; the results so far achieved being a good augury for the future of the Committee's work in the Punjab.

Increased Demand for Publicity Literature.

The collection and dissemination of information is one of the principal functions of the publicity Branch of the Committee. This service aroused considerable interest and brought together people of like pursuits. This branch was repeatedly asked for help in many directions and numerous requests for publication of general and scientific nature were received and dealt with from United Provinces of Agra and Oudh, Sind, Bombay Presidency, H. E. H. the Nizam's Dominions, Khairpur State, Jhalawar State, States in Central India and Rajputana, Bengal, Central Provinces, Indore, Bihar, Orissa and Iraq.

Future Programme.

So far the next half-year is concerned, greater work lies ahead. Requests for propaganda campaigns have been received from :—

- (1) *Punjab* for destroying Spotted Bell-worm Pest of Cotton,
- (2) *Central Provinces* for eliminating the inferior Garrow-hill cotton,
- (3) *Madras* for Commercial Crops Market Act,
- (4) *Bombay Presidency* for
 - (a) Organizing cotton section of the Karnatak Agricultural Show,
 - (b) Publicity and Propaganda work for spread of *Jayawant* cotton and eradication of new-cross cotton in Hubli and Haveri Centres,
 - (c) To advise regarding preparation of slides, etc., for lectures on Khandesh Cotton Cultivation,
- (5) *Punjab* for organizing Committee's Stall at the forthcoming Industrial and Agricultural Exhibition, Lahore,

and these will be attended to on proper lines.

Further, popular illustrated and other leaflets, posters, etc., on specific problems will be published in the vernaculars and circulated as usual. In addition, press publicity will be continued. It is also proposed to prepare a film representing the production, marketing and manufacture side of cotton, with particular reference to the work done at the Committee's Technological Laboratory, Matunga.

Finally, items of Publicity memorandum approved by the full Committee will be progressively followed up.

(Sd.) R. D. MIHRA.

APPENDIX II.

SUBJECT 9.—*Summary of Proceedings of the Local Sub-Committee.*

Secretary's Note.

Four meetings of the Sub-Committee were held since the last meeting of the Committee in March 1937. Messrs. J. L. Hurschler and M. S. Durutti, having resigned, their places on the Sub-Committee were taken by Messrs. J. Vonesch and S. B. Samoilys respectively, who succeeded them on the Committee. Two members of the Sub-Committee, *viz.*, Sir Purshotamdas Thakurdas and Mr. Kasturbhai Lalbhai, have temporarily gone out of India in connection with the Indo-British Trade Negotiations and their places on the Sub-Committee have not been filled.

2. Complaints regarding incorrect marking and false packing of bales, watering of cotton and admixture in cotton and the action taken thereon were considered and recorded by the Sub-Committee.

3. In November 1936, the Northern India Chamber of Commerce, Lahore, addressed the Committee regarding the suggestion made for the checking of the malpractice of mixing *desi* with American cotton in the Punjab by increasing railway freights for *kapas* for short distances. The view of the Chamber was that the infliction of penalties on ginning factories where the practice was resorted to would be more effective than manipulating railway freights. The letter from the Chamber was referred to the Director of Agriculture, Punjab, who replied to say that the Punjab Government had decided in view of the complexity of the problems, to defer action regarding the introduction of a bill to check the mixing of *desi* with American cotton until the results of legislation undertaken in Bombay and the Central Provinces were known. The North-Western Railway, too, had decided not to make any increase in the existing freight on seed cotton. The Sub-Committee considered the reply of the Director of Agriculture and decided that the President of the Committee and Prof. W. Roberts might be requested to take up the matter with the Commerce Member and the Premier of the Punjab respectively.

4. In January 1936, the Wider Markets Sub-Committee, with a view to popularising Indian short staple cottons among woollen manufacturers in Europe, decided that small samples of Indian short stapled cottons, *viz.*, Comillas, Sind-*Desi*, Rajputana-*Desi* and Burmas, should be supplied by the Committee to *bona fide* consumers in Europe. Samples of these cottons were accordingly sent by the Director, Technological Laboratory, to the Lancashire Indian Cotton Committee and the Indian Trade Commissioners at Milan and Hamburg. As a result of subsequent inquiries made the Lancashire Indian Cotton Committee and the Indian Trade Commissioner, Milan, stated that no reports had been received by them from woollen manufacturers on the samples supplied. The Indian Trade Commissioner, Hamburg, however, while forwarding the views of the trade in Germany, asked for the names and addresses of the firms who could supply Indian cotton as per samples sent. The Sub-Committee decided that a list of the shippers from Karachi might be supplied to the Indian Trade Commissioner, Hamburg, as they were mainly concerned with the types of cotton required by the wool industry in Europe. The Sub-Committee also decided that samples of Mathia cotton should be sent to the Indian Trade Commissioners in London, Milan and Hamburg in order to ascertain whether this cotton could be used for any purpose like the other short staple cottons.

5. The Sub-Committee considered a note by the Cotton Research Botanist, Parbhani, on the relative performance of Gaorani 4 and 6 cottons during the years 1933 to 1936 and proposals for the extension of the area under them during 1937-38 and decided to refer the subject to the Agricultural Research Sub-Committee and in the meanwhile to obtain the opinion of the Bombay and Ahmedabad Millowners' Associations on the spinning merits of the two cottons. The Sub-Committee further decided that when the staple length of a cotton was only $\frac{7}{8}$ ", it should not be tested for more than 20's to 25's as what was wanted was the limit up to which a cotton could be economically spun under mill conditions. The Sub-Committee further suggested that the speed of spindles should also be given in the spinning test reports. This subject has been dealt with by the Agricultural Research Sub-Committee and its recommendations will be found in its report to the Committee.

6. The Sub-Committee considered a letter from the Director of Agriculture, Punjab, stating that in certain cotton ginning and pressing factories in the Punjab, the construction of which was completed or commenced before the Cotton Ginning and Pressing Factories Act of 1925 came into operation, additions and alterations have been made which are not in accordance with the plans and specifications prescribed under Section 9 (1) of the Act. The Director of Agriculture further reported that some of the owners of these factories who were prosecuted under section 9 (1) (b) of the Act, were acquitted by the trying Magistrates on the ground that the said section, as at present worded, does not apply to factories constructed before the Act was passed in 1925. The Legal Remembrancer to the Punjab Government supported the opinion of the trying Magistrates. The Sub-Committee considered that the object of the Act would be defeated if additions or alterations as reported by the Director of Agriculture, Punjab, were permitted and decided that the Government of India should be moved to amend Section 9 (1) of the Act, so as to bring within its scope also those factories which were constructed before the commencement of the Act.

7. In considering the question of the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, to parts of the Bombay Presidency, the Sub-Committee at its meeting in January 1937 decided that the views of all bodies concerned should be obtained. The replies received from the East India

Cotton Association, the Bombay Millowners' Association, the Bombay Chamber of Commerce and the Director of Agriculture, Bombay Presidency, were placed before the last meeting of the Committee along with Draft Rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, forwarded by the Bombay Government, but the Committee did not express any opinion regarding the application of the Act. The Sub-Committee accordingly considered this matter and decided that the Bombay Government should be requested to apply the Act as early as possible to the Broach District and three areas of the Southern Division defined under the Cotton Transport Act, *viz.*, Dharwar-Kumpta, Bagalkot and Bijapur.

8. In April 1937, the Sub-Committee considered a joint memorandum submitted by Sir Chunilal V. Mehta and Mr. M. S. Durutti, wherein two main issues were raised in regard to the propagation of improved varieties of cotton. The first was that the distribution of a multiplicity of American varieties in Sind and the Punjab had resulted in the cotton of these Provinces being of irregular staple length. The second was that the practice of sale by auction of improved varieties of cotton grown under the immediate supervision of the Agricultural Departments has resulted in the mixing of pure seed with inferior seed, eventually leading to the deterioration of the improved variety, as the bidder at such auctions usually was a middle man and not a spinner. As decided by the Sub-Committee the question of restricting the number of improved types of cotton to be distributed in the Punjab has been referred to the Agricultural Research Sub-Committee at this meeting. In regard to auction sales the Sub-Committee recommended that the Directors of Agriculture should arrange to sell direct to mills the cotton grown under the immediate supervision of Agricultural Departments; this forms a separate subject on the agenda.

9. In connection with the wide parity between Broach and American cotton during the first quarter of this year, it was suggested that the under-valuation of the Broach contract was due to the very poor staple of the cotton which was being grown in the Broach tract at the instance of certain co-operative cotton sale societies who are pushing a high ginning cotton with a staple inferior to Berar Oomras. The question was considered by the Sub-Committee and as a result an enquiry was made of the Director of Agriculture, Bombay, as to the measures he proposed to adopt to check the deterioration in Broach cotton. As decided by the Sub-Committee the East India Cotton Association was also asked to report whether there was deterioration in Broach cotton and, if so, what remedy it would suggest. The Secretary also had a personal discussion with the Registrar of Co-operative Societies, Bombay Presidency, in regard to complaints against certain Societies as a result of which the Registrar directed the Assistant Registrar of Co-operative Societies, Nadiad, and the Agricultural Organiser, Surat, to submit a joint report on the position. The joint report and the reply of the Director of Agriculture, Bombay, form Enclosures III and II respectively of Subject 80, *viz.*, "Cotton Policy in Gujarat," on the agenda of this meeting. The reply of the East India Cotton Association is still awaited.

10. The Sub-Committee considered the attached letter from Messrs. Volkart Brothers, Karachi, forwarded by Mr. J. Vonesch, on the subject of the despatch of cotton samples from India by air and decided that a copy of it should be sent to the Government of India in the Commerce Department for necessary action.

11. At its meeting held in March 1936, the Sub-Committee considered a reference from the Commissioner of Labour, Madras, suggesting the cancellation of item (9) in the Madras Government Notification under the Cotton Ginning and Pressing Factories Rules requiring the compulsory installation of *kapas* openers in all new ginning factories and expressed the view that it would be unfair that new factories should be compelled to have openers, while no such restriction was imposed on old factories, but that if no general compulsion were possible, the item in question should be cancelled. Again at its meeting in January 1937, the Sub-Committee considered a letter from the Madras Government regarding the proposed amendment of the Cotton Ginning and Pressing Factories Act so as to make the installation of *kapas* openers obligatory on those who started new ginneries and also on those who wished to renew old ginneries, and decided that the views already expressed by it should be adhered to. The Madras Government have since issued an order requiring the owners of all factories including the existing ones to provide *kapas* openers. The Sub-Committee while recording the above order of the Madras Government decided that an enquiry might be made of the Local Government if they had taken any steps to prevent *kapas* being ginned before it was passed through openers.

12. The Committee at its meeting held in August 1935 passed the following resolution :—

“ The Indian Central Cotton Committee views with great concern the increase in the practice of mixing of Punjab-American and *Desi* cotton which is taking place this year. The concession for long distance *kapas* transport given by the North-Western Railway and other Railways a few years ago has, this year, particularly resulted in accentuating this practice. The concession on the North-Western Railway was, the Committee believes, originally introduced to assist in the marketing of Bahawalpur cotton when ginning arrangements were inadequate. This is not now the case. The Committee wishes to press the Punjab Government to make enquiries and, if possible, to move for the withdrawal of this concession in the general interest of the cotton growers of the Province.”

The Punjab Government were accordingly requested to enquire into the effects of the concession rate of 0.38 pie per mile per maund granted to the trade for the transportation of *kapas*, and to direct the Railway Administration to withdraw the concession, in so far as it related to big distance traffic. The Punjab Government have since intimated that the Railway authorities do not propose to make an enhancement in the existing rates for carriage of cotton with seed, but that the question will continue to be examined and an increase in the rates will be made if at any time it was found that such an enhancement was justified on purely commercial grounds. The Sub-Committee considered the reference from the Punjab Government and decided that the Secretary should be requested to prepare a self-contained brief about the whole case with a view to have the matter again considered by the Railway Board through the President.

13. The Sub-Committee also dealt with the following subjects which form separate items on the agenda of the Committee and have not therefore been dealt with here :—

(a) Bhopal Cotton Control Bill (Item 77).

(b) Cotton Ginning and Pressing Factories (Bombay Amendment) Act—

Draft Rules under—Views of the East India Cotton Association. (Item 84.)

Copy of letter Dept. Air No. K002/01-L. AE/TJ, dated the 1st May 1937, from Messrs. Volkart Brothers, Karachi, to the Secretary, Indian Central Cotton Committee, Bombay, Through Mr. J. Vonesch.

COTTON SAMPLES FROM INDIA THROUGH EGYPT BY AIR.

On the strength of special regulations issued in 1935 by the Egyptian Government, cotton samples are allowed to be carried by air through Egypt on the condition only that they are packed in hermetically sealed tins.

The purpose of such regulations is to prevent the importation into Egypt, by way of transit samples, of cotton pests common in India, which, so far as we knew, are :—

The Pink Boll-worm, Spotted Boll-worm, The Cotton Stem Borer, The Stem Weevil, The Cotton Leaf Roller, The Red Cotton Bug, The Dusky Cotton Bug, The Cotton Leaf Hopper and the Cotton Aphids.

The above restriction adversely affects the Indian Cotton Exporters, who are greatly handicapped in the dispatch of their samples by air, by the necessity of having to bear the cost of the tins and who also have to pay extra air freight on the dead weight of this packing. This is all the more irritating, as genuine doubts exist with regard to the preventive value and the practical efficiency of the measure adopted by the Egyptian Government. The Indian Exporters maintain that the presence of an insect pest, alive and active, in a sample of ginned cotton, is not possible, as this cotton has undergone the process of ginning and a very great hydraulic pressure.

These regulations only apply to samples dispatched as air *freight* and do not apply to similar samples carried on the same plane as *mail*, which latter are packed in mail bags together with the letters.

On account of the enormous difference in the rate between freight and mail it is however not practical for the Exporters to utilize the latter form of transit. We would like to point out that no restriction exists against samples carried by sea-mail. All the mail steamers call at an Egyptian port, where the possibility also exists of a cotton pest being introduced into the country, when mail bags are unloaded from the same hold which usually contains an enormous number of cotton samples. We would like to approach the Egyptian Government through our Principals, Messrs. Royal Dutch Air Lines, The Hague, for revision of the present restrictions, and we would like to solicit your support, as there is no doubt that the merchandising of Cotton is facilitated, if free use of the air traffic can be made. We believe that everybody's interests would be sufficiently guarded, if the cotton samples are stowed in bags similar to the ones used for the letter mail. These bags could be sealed by the customs at Karachi Airport and would not be allowed to be removed from the hold, but remain there during the stay of the plane at the Egyptian Air Ports (at present Lydda and Alexandria), a stay which rarely exceeds half an hour.

APPENDIX III.

SUMMARY OF THE MINUTES OF THE COTTON FORECAST IMPROVEMENT SUB-COMMITTEE.

9th Meeting—6th August 1937.

SUBJECT 1.—*Confirmation of Minutes.*

The Minutes of the previous meeting were confirmed.

SUBJECT 2.—*Appointment of members on the Sub-Committee.*

Mr. J. Vonesch was appointed member of the Sub-Committee *vice* Mr. J. L. Hurschler resigned.

SUBJECT 3.—*Village consumption of cotton in India.*

As there were wide differences in the statistics collected in different provinces as to the consumption of cotton in villages and the conventional estimate accepted, doubts were expressed as to the correctness of the statistics. Though it was possible that the *per capita* consumption might be high in certain districts it was doubtful that the total village consumption, for instance, for United Provinces was about one lakh of bales. While the figure arrived at in the note for the total village consumption of cotton in all-India was put at 442,139 bales, it was much less than the conventional estimate of 750,000 bales adopted at present. As the general consensus of opinion was that there was some discrepancy in the working out of the data regarding village consumption it was decided that the detailed data should be submitted to Prof. Mahalanobis for offering suggestions as to the best way of utilizing it or for collection of any further data available. In case Prof. Mahalanobis was not prepared to undertake the work, the Director-General of Commercial Intelligence and Statistics, Calcutta, should be requested to examine the material collected by the Committee and to advise as to the course of action to be followed. Any small expenditure in connection with the examination of the data should be defrayed by the Committee.

SUBJECT 4.—*Post-mortem examination of cotton forecasts of the Madras Presidency for 1935-36 season.*

The Secretary's note was recorded.

SUBJECT 5.—*Proposed scheme for the improvement of Cotton forecasts of the Hyderabad State.*

A proposal to remedy the incorrectness of the statistics of the Hyderabad Cotton forecasts owing to unrecorded or partially recorded exports by road from State territory came up for discussion. It was proposed to collect and tabulate the data available at 300 customs *nakas* of the State. At whose expense this should be done and whether the suggested collection would remedy matters became next point of discussion. Owing to indefiniteness on these points the proposer was requested to withdraw his motion, which was done. If at later stage the Hyderabad Government should feel that financial assistance for the work was required, a modified scheme might be put up in consultation with the forecasting authorities of the adjoining provinces.

SUBJECT 6.—*Progress Report on the Bombay Cotton Forecast Improvement Scheme for the year ending 15th June 1937 and programme of work for 1937-38.*

The Progress Report and the programme of work were adopted after the explanations to questions by members.

SUBJECT 7.—*Dates of publications of Official Cotton Forecast—Reply from the Government of India.*

The Secretary's note was recorded.

SUBJECT 8.—*Revision of Standard yield figures of cotton in :—
(a) Bombay Presidency, (b) Sind.*

As it was explained that the present standard yield figures of cotton was very low and crop-cutting experiments did not give satisfactory results, the President suggested that the notes might be recorded and, if possible, Prof. Mahalanobis might be requested to obtain the opinion of Dr. Fisher on this question at the time of the latter's visit to India in December next, which was agreed to.

APPENDIX IV.

SUMMARY OF THE MINUTES OF THE SPECIAL SUB-COMMITTEE TO CONSIDER THE QUESTION OF A WIDER MARKET FOR INDIAN COTTON.

SUBJECT 1.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on 1st March 1937, were confirmed.

SUBJECT 2.—*Appointment of members on the Sub-Committee in place of Mr. Y. G. Deshpande, retired and Messrs. J. L. Hurschler and J. C. McDougall, resigned.*

The appointment of Messrs. P. V. Deshmukh, J. Vonesch and R. H. Hill as members of this Sub-Committee was approved.

SUBJECT 3.—*Submission of periodical reviews of the state of foreign trade in Indian cotton.*

The Secretary's note was recorded.

SUBJECT 4.—*Popularizing Short-staple Indian Cotton among manufacturers of woollen goods.*

The Secretary's note was recorded.

This Sub-Committee raised the question of encouraging the sale of Indian cotton in countries like Germany, Italy and China into which imports of cotton were falling off. The financial condition of Japan was deteriorating and export to that country would be soon adversely affected, not only by lack of foreign exchange but also of freight as the Japanese Government had strictly rationed imports through a Union of which only 3 or 4 Indian merchants were members. Those connected with the Union could make enormous profit. The Japanese Government had ceased giving fresh import permits to Indian cotton as a result of which ready Broach was selling at Rs. 193 against new Broach at Rs. 207 per khandi. The loss of market in China was due to China trying to meet her requirements by growing more cotton inland.

The Union referred to was a Shipping Combine in existence since many years. Shipping Companies had made agreement with the trade and mills in Japan to the effect that Cotton should be shipped in their steamers only. Importers could become members of this organisation but not exporters in India who has no shipping houses in Japan. The exchange control was introduced in Japan due to heavy imports of Indian cotton in Japan in the past cotton season, amounting to 2 million bales which ought to have reached 2,200,000 bales, at the end of the monsoon.

Increasing sales depended on two things :—(1) exports and (2) internal consumption.

It was pointed out that there were difficulties in getting regular supplies. Attempts should be made to induce Indian Mills to take more short staple cotton. If other countries could use short-staple cotton, why should Indian mills not do so? The use of short-staple cotton in the manufacture of artificial silk would also dispose of this type of cotton.

Referring to exchange control introduced by Japan and the abolition of discrimination against Indian exporters it was pointed out that the exchange was not allocated to the Merchants Union in Japan owing to the agitation on the part of spinners who felt that if it were done they would be in the hands of the Union.

It was informed that U.S.A. Government sent out Officers to other countries to study the trend of the counts, the production of different varieties of cotton, the types of foreign cottons imported, duties on imported cottons, if any, and so on. Such Officers have recently been sent to England and the Continent, India, China and Japan.

It was remarked from the Chair that Germany, Italy and Japan were buying mostly from those countries which took most from them and the price question did not arise in these cases or only affected imports very little.

Indian short-staple cotton was most vulnerable as only 30 per cent. of this cotton was consumed in the country. From a discussion with the Ahmedabad Millowners the President gathered that there was no possibility of increasing the consumption of short-staple cotton. The reason given was the increasing progress in spinning finer counts.

There was no organisation to supply information on the developments of overseas markets. It would be good if the Indian Central Cotton Committee would sponsor such an organisation. It would be possible to produce an effective organisation with the assistance of trade associations. The trade Commissioners keep themselves in general touch with import and export trade of India. Cotton involved many complicated questions and no trade Commissioner would be able to devote his whole attention to it. Even United Kingdom and U.S.A., in spite of elaborate organisations of Embassies and Consulates, sent out special delegates to study special trade problems.

It was pointed out that formerly 1027 A.L.F. was largely taken by the Ahmedabad mills, but now they are more interested in Sind cottons and also doubled their takings of African cottons. The Surti cotton exports to Lancashire were only 3,000 bales during the past three years.

Mills were spinning finer counts and cotton of longer staples was, therefore, required. Machinery was also making progress and to-day, 20 counts would be spun with a cotton which few years ago spun only 12's and 14's. It was desirable to concentrate on the production of a few varieties than growing a number of varieties. The demand was for continued and regular supplies.

Lancashire bought African, Brazilian and Russian cottons cheaper than 1027 A.L.F. Indian mills paid higher prices than Lancashire paid, hence export of this cotton to Lancashire was impossible.

Another speaker observed that not only prices, but political and economic arrangements interfered with exports. For example, Germany bought cotton from Brazil because of a trade agreement with that country. There were also barter arrangements between Germany and Egypt under which Egypt paid in cotton for other commodities from Germany. Barter agreement could not be brought about by the trade.

Sir T. Vijayaraghavacharya considered that political negotiations and pressure were required and no non-official Committee would get any hearing in Italy or Germany.

The President was of opinion that a definite scheme was required which alone could be placed before the full Committee. The organisation he had in view was to get information and then only further steps could be taken with the help of the Government.

At present all the relevant facts were not available. He thought the suggestions could be considered by the full Committee.

At this stage the meeting was brought to an end.

APPENDIX V.

SUBJECT 16.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 11 a.m. on Friday, the 6th August 1937.

Messrs. S. B. Samoilys, J. Vonesch and P. V. Deshmukh were appointed as members of the Sub-Committee *vice* Messrs. M. S. Durutti and J. L. Hurschler, resigned, and Mr. Y. G. Deshpande, retired, respectively.

The Progress Report of the Director, Technological Laboratory, for the year ending 31st May 1937 was considered. The total number of samples received for test during the year was 521 against 604 for the corresponding period of last year. The decrease was due to the smaller number of samples received from Agricultural Departments and those taken up for special investigations. In all, 431 samples divided into 468 lots were spun into 1,547 counts during the period covered by the report, the figures for the year ending 31st August 1936 being 496 samples, 553 lots, and 1,776 counts. On these, 129 spinning test reports, 52 fibre test reports, and 10 yarn test reports were issued during the period under review as against 135, 44 and 13 reports respectively in the year ending 31st August 1936.

Three samples of Cambodia strain 1267, one of them a control sample, were tested with the object of ascertaining the effect of passage of *kapas* in a Crighen opener before ginnings. Tests showed that this pre-treatment did not damage the fibre in any way nor lowered the yarn strength while it had the additional advantage of reducing the blow-room loss of the pre-cleaned cotton by about 1 per cent.

In view of the proposed extension of Gaorani 4 and Gaorani 6 in the Hyderabad State comparative tests on these cottons were arranged in a local mill and made at the Laboratory also to find out their relative merits. These tests showed that Gaorani 6 gave a definitely better performance than Gaorani 4.

Fibre tests on 51 samples were carried out at the request of the Appeal Committee of the East India Cotton Association.

Some other tests of special interest carried out during the year are (1) on cotton grown in the North-West Frontier Province, where the cultivation of cotton is extending, (2) on an Afghan cotton and (3) on Hiriyr cotton grown on dry and wet lands.

On the research side the year under review marked the completion of the investigation on the effect of twist on the length and strength of cotton fibre, on the effect of weather on the fibre-properties and spinning quality of standard Indian cottons and on the deterioration of Broach cotton caused by bacteria and fungi and identification of the latter. An account of the investigations under progress was given.

The Sub-Committee approved of the report and recorded its appreciation of the good work done during the year.

The Sub-Committee accepted the proposal of the Director, Technological Laboratory, that in future only two reports should be prepared by him, one an interim report covering the period 1st June to 30th November for consideration at the cold weather meeting of the Committee, and one an annual report covering the period 1st June to 31st May. It was decided that as soon as the annual report is ready proof copies of it should be circulated to members of the Technological Research Sub-Committee for comments with a definite time limit stated for the receipt of replies. After taking into consideration the comments received, the Director should submit the report to the President for approval and then publish it as early as possible as a separate publication of the Indian Central Cotton Committee. The report should come up for consideration by the full Committee in due course and any comments made should be incorporated in the proceedings of the full Committee and in its annual report.

Owing to the general impression in the trade that Broach cotton deteriorated more rapidly in storage, at the request of the East India Cotton Association fibre and spinning tests were made at the Laboratory on samples drawn from a bale of Broach cotton at intervals of approximately 6 months. The Sub-Committee considered the report embodying the results of these tests and agreed with the conclusions.

The Sub-Committee considered the question of continuing fibre tests at the Laboratory on samples supplied by the Appeal Committee of the East India Cotton Association and recommended that the Laboratory should undertake these tests and charge fees according to the prescribed schedule.

The proposed installation of a tube well in the compound of the Technological Laboratory at an estimated expenditure of Rs. 900 was approved.

The Sub-Committee considered a suggestion of the Bombay Millowners' Association that five copies each of the technological reports and 4 copies each of the technological circulars should be supplied to all mills instead of the present supply of 4 copies of the former and one copy of the latter. The Technological Research Sub-Committee recommended that 4 copies each of the report and circulars should be supplied free to spinning mills only and that enquiries should be made whether they actually needed this number or whether a smaller number would suffice.

The question of fixing separate charges for tests on foreign cottons supplied by firms in India was considered and it was decided that a separate schedule on a higher basis should be drawn up by Director, Technological Laboratory, and submitted to the Committee for approval.

The modified scale of fees for tests at the Laboratory proposed by the Special Sub-Committee appointed for the purpose at the last meeting, and approved by the Standing Finance Sub-Committee, was recorded.

The interim report submitted by the Director, Industrial Research Bureau, on the manufacture of artificial silk from short staple Indian cottons was recorded.

The proposals contained in the report of the Special Sub-Committee consisting of the representatives of the Bombay and Ahmedabad Millowners' Associations for the establishment of a testing house for Indian cotton were considered. The Sub-Committee approved of starting a Testing House for the trade and the industry which will be housed in the Technological Laboratory in the first instance, sanctioned Rs. 6,000 from the capital grant for the necessary equipment, the employment of an additional clerk, if necessary, whose salary would be met out of the receipts, approved of the schedule of fees for the various tests and the provisional rules and regulations drawn up by the Special Sub-Committee.

The proposal submitted by the Director of Agriculture, Punjab, in consultation with Mr. W. Roberts in connection with the scheme for research into the improvement of cotton ginning machinery was postponed for consideration to the next meeting of the Sub-Committee when Mr. Roberts was expected to be present.

The Sub-Committee approved of the plan proposed by the Director, Technological Laboratory, to be carried out in connection with the cleaning and mixing of Indian cottons and decided that 289F should be added to the list of cottons to be experimented on.

The proposal of the Director for the installation of a plant in one of the rooms of the Technological Laboratory for the purpose of controlling humidity at a cost of Rs. 1,400 was approved.

The reports of the Technological Assistants were approved subject to the observations made on them in the report of the Agricultural Research Sub-Committee.

APPENDIX VI.

SUBJECT 17.—*Agricultural Research—General Progress Report.*

The Indian Central Cotton Committee has provided funds for 36 Agricultural Research Schemes and 13 Seed Schemes in the Budget for 1937-38.

A. AGRICULTURAL RESEARCH SCHEMES.

Out of the 36 schemes, the following schemes are dealt with under separate subject numbers noted against them on the agenda and requires no comment here :—

<i>Schemes.</i>	<i>Subject No.</i>
1. Broach Cotton Breeding Scheme	18
2. Jalgaon Cotton Breeding Scheme	19
3. Scheme for Improvement of Wagad Cottons at Virangam	20
4. Scheme for Breeding of Wilt-resistant Cottons in Surat area	21
5. Madras Herbaceum Scheme	22
6. Madras Nadam Cotton Breeding Scheme	23
7. Bikaner Bengals Cotton Improvement Scheme	24
8. Bengal Comilla Cotton Scheme	25
9. Scheme for Improvement of Kumpta Cotton in Hyderabad State	26
10. Punjab Botanical Scheme	27
11. Central Provinces Botanical Scheme	28
12. Hyderabad Botanical Scheme	29
13. Central Provinces and Berar Entomological Scheme	31
14. Hyderabad Pink and Spotted Boll-worm Scheme	32
15. Punjab Root Rot Scheme	33
16. Baroda Root Rot Scheme	34
17. Mysore (Doddahathi) Scheme	35
18. Madras Pempheris and Physiological Scheme	36
19. Madras Fodder Cholam Scheme	37
20. Sind Physiological Scheme	38
21. Scheme for Survey of Goghari Cotton in Gujarat	39
22. Scheme for Survey of Goghari Cotton in Baroda State	41
23. Plant Puller Propaganda Scheme in Surat and Broach Districts	42
24. Plant Puller Propaganda Scheme in Baroda State	43
25. Joint Scheme for the estimation of effects on cotton crop of use of plant puller in Bombay Presidency and Baroda State	44
26. Scheme for Defibration of cotton seed in the Bombay Presidency	45
27. Institute of Plant Industry, Indore	47
28. Scheme for inclusion of Northern and Western cottons in the programme of work of Dry Farming Scheme at Bijapur	49
29. <i>Scheme for the Improvement of Mungari cotton in the Madras Presidency.</i>	
30. <i>Scheme for cotton Jassid Investigation in the Punjab.</i>	
31. <i>Scheme for the Clean-up Campaign of Spotted Boll-worm in the Punjab.</i>	
32. <i>Scheme for the inclusion of Northern and Western cotton in Dry Farming Scheme at Raichur.</i>	

These schemes, which were sanctioned by the Committee at its last meeting, have not yet received the approval of the Government of India. Progress Reports on them will be considered at the next monsoon meeting of the Committee.

33. *Pink and Spotted Boll-worm Scheme in the Punjab.*—This scheme was extended by the Committee at its last meeting for one year up to the 31st March 1938 for further research and for the writing up of the Final Report on it. The Final Report will be ready for consideration at the next meeting.

34. *Spraying Trials Scheme in the Punjab.*—The actual work on this scheme, which was last extended for one year in February 1935, was to begin only in a year of really bad White Fly attack. No progress report has been submitted as in the last season the White Fly attack was not severe.

35. *Physiological (Cotton Failure Research) Scheme in the Punjab.*—The Progress Report for 1936-37 was considered at the last meeting of the Committee. No progress report has therefore been submitted at this meeting.

36. *Scheme for the improvement of Mathio cottons at Amreli and Jagudan.*—This scheme which was sanctioned at the August 1936 meeting of the Committee started work very recently. Progress Report will be considered at the next monsoon meeting of the Committee.

B. SEED DISTRIBUTION SCHEMES.

Progress Report on the following schemes are dealt with separately on the agenda under subject numbers noted against them :—

<i>Schemes.</i>	<i>Subject No.</i>
1. Revised Jayawant and Gadag No. 1 Scheme	51
2. Surat Scheme	52
3. Khandesh (Banilla) Scheme	53
4. Deccan Canals (Banilla) Scheme	54
5. B.D. 8 Scheme	55
6. Sind Scheme	56
7 and 8. Madras Tiruppur and Co. 2 Schemes	57
9. Scheme for extension of long staple cotton and marketing of Verum cotton in Cental Provinces and Berar	58
10. Hyderabad Scheme	59
11. Baroda (Navsari Seed Storage) Scheme	60
12. United Provinces C. 402 Scheme	61

13. *Scheme for the extension of Jarila cotton in Khandesh.*—This scheme which was sanctioned at the last meeting of the Committee, has not yet received the sanction of the Government of India. Progress Report will be considered at the next monsoon meeting of the Committee.

P. H. RAMA REDDI.

APPENDIX VII.

SUMMARY OF PROCEEDINGS OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE.

GRANTS-IN-AID :—

SCHEMES IN PROGRESS IN THE PROVINCES AND THE STATES.

SUBJECT 31.—*Progress Report on the Scheme for the Defibration of cotton seed in Bombay Presidency.*

The work on the scheme was started in the latter half of February 1936, the machine being installed in January. Experiments carried both in the first year and the second year indicate that the defibration of local seed is not an economic proposition. It was resolved that the scheme be discontinued and the Director of Agriculture, Bombay, be requested to find out the best way of disposing of the machine.

SUBJECT 32.—*Progress Report on the Scheme for Defibrating and Delinting Plant in the Punjab.*

It was pointed out that the Punjab scheme had yielded a good deal of valuable information from the scientific point of view but nothing had been achieved from the point of view of the cultivator. It was, therefore, decided that the Scheme be discontinued forthwith and the machine be sold off at the best possible price.

SUBJECT 37.—Seed Distribution and Extension Schemes—Progress Report on the Revised Jayawant and Gadag No. 1 Scheme.

The history of these Schemes goes back to the year 1929 when the Committee sanctioned five separate schemes for the distribution and the extension of Jayawant and Gadag No. 1 cottons in the Southern Division of the Bombay Presidency. Out of these five schemes, viz., Hubli, Gadag, Athani, Haveri and Bailhongal, the last two could not be started for several reasons while in the first two certain defects in the working of the scheme were detected which stood in the way of their being continued after the expiry of their sanctioned period. A revised scheme embracing not only the five schemes originally decided upon but including other areas in the Dharwar, Belgaum and Bijapur Districts was designed. The new scheme which aimed at decentralisation was started in 1936 and operated from seven centres, viz., Hubli, Haveri, Navalgund, Bailhongal, Athani, Bijapur and Bagalkot through the agency of the Co-operative Societies but under the general control of the Agricultural Department. Societies which consented to work the scheme were to receive a subsidy not exceeding annas six per bag (140 lbs.) to cover handling charges and losses incurred by them. The scheme was sanctioned by the Committee for a period of five years at an estimated expenditure of Rs. 2,66,772 of which a sum of Rs. 88,332 represents a saving of the original five schemes referred above. As the scheme was sanctioned subject to the condition that the Bombay Government should bear 25 per cent. of the additional cost but as the Local Government agreed to bear their share for a period of one year only, the scheme was in operation for that space of time only. It was decided that general instruction should be issued to the Directors of Agriculture to provide percentage figures both in relation to the figures for the previous year and also the production and area figures for the territory in which the scheme is working.

The report of the Sub-Committee was adopted.

SUBJECT 38.—Seed Distribution and Extension Schemes—Progress Report on Surat Scheme.

The work on this scheme was started in 1929 and was further extended in 1931 for a further period of two years pending the decision of the Committee on the merits of the two rival varieties of 1-A and 1027 A.L.F. The Committee in 1934 finally came to the conclusion that 1027 A.L.F. was suitable for distribution and extended the scheme for five more years till March 1939. However, in the very next year 1935 the scheme met with a set-back as owing to a severe frost and consequent failure of crop it was not possible to secure more than 1,118,906 lbs. of pure seed of 1027 A.L.F. for distribution. And even this quantity of seed could not be distributed owing to the unreasonable attitude of the cultivators who attributed the failure of the crop to this seed and to the advice of the money lenders who favoured Khandesh cotton. As a result of these factors the total quantity of seed distributed did not exceed 905,539 lbs. including 289,616 lbs. supplied to Idar and Chhota Udaipur States against the total distribution of 2,312,818 lbs. during the last year. An area covering 12,828 acres was maintained by the Agricultural Department for the purpose of seed multiplication and the seed thus obtained was distributed for sowing during the 1936-37 season.

The Report of the Sub-Committee was adopted.

SUBJECT 39.—Seed Distribution and Extension Schemes—Final Report of Khandesh (Banilla) Scheme.

Work on this scheme was started in May 1931 sanction being obtained in December 1930 for the extension of Banilla cotton in Khandesh areas for a period of five years. Proposals for the extension of the scheme for three years from 1936 were considered by the Committee but its extension was sanctioned for one year only pending the decision of the Government of Bombay regarding the part of the cost of the scheme. The scheme has borne good results for during the five years of its operation the area had extended to 130,000 acres with a production of 30,000 bales. In spite of the cotton being susceptible to wilt it is superior to local cotton and gives better results, pure Banilla fetching a premium of Rs. 10 to Rs. 15 per candy. Spinning tests carried by the Technological Laboratory, Matunga, showed that Banilla grown on Bhadgaon Farm gave slightly better results. The Agricultural Department maintained a controlled area of 20,112 acres and distributed for cultivation 9,65,000 lbs. of pure seed.

The Report of the Sub-Committee was approved.

SUBJECT 40.—Seed Distribution and Extension Schemes—Progress Report on Deccan Canals (Banilla) Scheme.

Work on this scheme was started at the Government Farm at Kopergaon in April 1934. The Special feature of this scheme is that unlike other projects it is going to be self-supporting. Out of the 60 acres of farm land 30 acres were covered with Banilla in 1935-36 and in spite of adverse conditions like green caterpillars and low rainfall the total yield was 22,378 lbs. of *kapas* or 733 lbs. per acre. All the *kapas* was ginned on the Farm and out of 10,700 lbs. of pure seed 10,000 lbs. were distributed to cultivators and the balance was retained for sowing on the Farm. In the irrigated Deccan Canal area the Banilla gives as high a yield as the Local N. R. and fetches a good premium. The total area expected to be covered by this cotton is 30,000 acres.

The Report of the Sub-Committee was approved.

SUBJECT 41.—Seed Distribution and Extension Schemes—Progress Report on B.D. 8 Scheme.

This scheme was first sanctioned in August 1935 and work was commenced in December 1935 for a period of three years. It was ascertained at the beginning of the scheme that an area of 3,023 acres was under cultivation of pure B.D. 8 cotton yielding 474,534 lbs. of seed and 252,032 lbs. of lint. The price fetched by this variety was at a premium of Rs. 40 to Rs. 53 per candy over the Broach variety. In spite of the buyers underestimating the value of the lint owing to low ginning percentage and absence of well organised market the cultivators favoured this variety for its high yield of *kapas* and wilt resistance.

The Sectional Sub-Committee felt that some remedial measures were called for as the cultivator of the B.D. 8 was actually getting less than what he was getting for Goghari.

The President observed that the marketing of the improved cotton at a premium was a hardy annual. The essence of every single scheme turned upon the efficient marketing and it was the policy of the Committee to help the cultivator to get a better return than what he was getting at present.

The Report of the Sectional Sub-Committee was adopted subject to the incorporation of Mr. Jenkins' suggestion that whenever a new scheme was sanctioned it should contain definite recommendations for marketing the improved cotton.

SUBJECT 42.—Seed Distribution and Extension Schemes—Progress Report on Sind Scheme.

Originally started in 1931 for a period of three years, the work on the scheme was further extended for five years. The record of the first five years have conclusively proved that the Right Bank of the Indus is as suitable for the cultivation of long-staple cotton as any other area in Sind. Special attention would henceforth be given for seed distribution, better methods of cultivation and the extension of the area under cotton in the Barrage area. Following intensive propaganda cotton cultivation, unknown on this part of the Indus, rose from 4,000 acres in the previous year to 17,000 acres during the current season. There were 40 demonstration plots for the comparison of 4-F93 and Sind-Sudhar (289-F1). Contrary to previous experience this year the latter gave better yields than the former.

Sind-Sudhar has definitely proved to be the best suitable cotton for the Left Bank, having the highest yield in Hyderabad District, while it followed as the second best in Nawabshah District. The difficulty in the extension of high quality cottons like Sea-Island and Boss III-16 is the absence of marketing facilities.

The Agricultural Department have evolved out a perfect system for seed distribution suitable for Sind. The seed distributed totalled 74,000 lbs. of Sind-Sudhar, Sind N.R., Sea-Island and Boss III-16. The total acreage under cotton on the Left Bank was 790,858 as against 669,100 in 1934-35.

It was pointed out in the Progress Report of the Sectional Sub-Committee that the production of the cotton cultivation was likely to be stabilised at a million acres, roughly divided half and half between American and the *Desi* variety. The Cotton Cultivator in Sind was in the happy position of switching off from one variety to the other without increasing his production costs. Both long and short-staple cottons were grown on the irrigated areas and curiously enough the short-staple variety sometimes commanded a premium over the long staple.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 43.—Seed Distribution and Extension Schemes—Progress Report on Madras Tiruppur and Co. 2 Schemes.

The object of the original scheme was to provide for the pay of an officer to act as an adviser to a group of Co-operative Societies in Coimbatore District which were growing improved strains of Cambodia cotton. Though sanctioned in 1929 the actual work was commenced in 1931 and was extended in June 1936 for a short period of three months. In the year 1933 the scheme was amalgamated with a new scheme known as the Tiruppur Co. 2 (Cambodia) Seed Extension Scheme which was sanctioned in 1932 for a period of five years for the distribution of Co. 2 seed in the Salem and Coimbatore Districts through the Agency of the Agricultural Department and the Tirupur Co-operative Trading Society. The second scheme had for its object the maintenance by the Agricultural Department through the grant of the Committee of a seed multiplication area of not less than 6,000 acres and distribution of pure seed through the agency of the Society for 106,000 acres. The Committee had further guaranteed the Society its actual loss on the seed transaction to the extent of 10 per cent. on the capital invested and interest thereon at 5 per cent. In 1934-35 the cotton crop was adversely affected by pests and bad climatic conditions yielding a poor return of 420 lbs. per acre. In 1935-36 the Agricultural Department had issued pure seed for 6,249 acres of seed multiplication area but owing to failure of rains and inadequacy of water in the wells only 5,320 acres were utilised by sowing at a higher seed rate. As a result, the yield of cotton is not expected to go over 280 lbs. per acre. The Co. 2 is appreciated both by the cultivator and merchant as the premium obtained per candy of 784 lbs. of Co. 2 cotton over local Cambodia was Rs. 7-8 to Rs. 12 in 1935.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 44.—Seed Distribution and Extension Schemes—Progress Report on the Scheme for the Extension of long-staple cotton and marketing of verum cotton in Central Provinces and Betar.

Originally sanctioned for a period of one year it was extended annually till in the year 1934 it was amalgamated with the scheme for the joint extension and marketing of Verum 262 and long-staple cotton. It was sanctioned for a period of three years. The quantity of staple cotton disposed off in the year 1935-36 amounted to 6,823 bales fetching an average premium of Rs. 42-9 over Broach and 32-26 on Oomra. It was explained by Mr. Hill that it was not correct to say as stated in the Sectional Sub-Committee's report that the drop in the cultivation of verum cotton in the year 1931-32 was due to low premium. The real reason for the drop in the acreage was due to the failure of the crop when the outturn of the Verum variety was about 52 lbs. as against an average of 500 lbs. per acre.

The Report of the Sectional Sub-Committee with the necessary correction was approved.

SUBJECT 45.—Seed distribution and Extension Schemes—Progress Report on Hyderabad Scheme.

Beginning was made on this work in the year 1930 and extended for three years till 1933 and subsequently further until 31st August 1936. It was at first a scheme for the distribution of Dharwar No. 1 and Gadag No. 1 seeds but in view of the experiments carried for the initial two years it was discovered that Jayawant variety was more suitable for the areas covered by the Scheme. In 1936, the Committee sanctioned a further extension for a period of 4½ years subject to the condition that the State agreed to bear at least 50 per cent. of the cost. The Department of Agriculture maintained a seed multiplication area of 7,000 acres but owing to failure of crop and dearth of pure seed it was not possible to distribute more seed than required for covering 41,256 acres. Arrangements had been made to obtain from within the State itself sufficient quantities of pure seed to cover at least 35,000 acres for the season 1937-38 and purchase the remaining quantity from selected cultivators. This proposal minimises the danger of set-back in adverse seasons and also remains independent of the Bombay Presidency for the supply of pure seed.

The sectional Sub-Committee was of opinion that the progress of the scheme was slow and enquired of the Director of Agriculture, Hyderabad, as to the cause of the decrease in acreage from 41,256 in 1935-36 to 13,871 in the following year. The drop was accounted for as a result of the failure of rain.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 46.—Seed Distribution and Extension Schemes—Progress Report on Baroda (Navsari Seed Storage Scheme).

Sanctioned for a period of three years for the rapid spread of 1027 A.L.F. in Baroda territory, the Scheme met with a serious set-back in the very first year of operation in the year 1934 consequent of the occurrence of severe frost. But as a result of the prompt steps taken by the State Agricultural Department 1,350,660 lbs. of pure seed were obtained from different sources and 147,555 lbs. of pure seed was distributed for sowing purposes. In the year 1935-36 the area was carefully rogued, the produce obtained was ginned under the supervision of the Officer-in-Charge of the Cotton work and the seed was stocked for distribution for 1936-37 season. As a result of the steady distribution of pure seed on a large scale, the continuous propaganda in favour of 1027 A.L.F. and the serious efforts on the part of the State Agricultural Department to make itself independent of the Surat Farm there are clear indications that the area under Goghari would decline. It is also anticipated that within a couple of years arrangements of a steady supply of selfed seed of 1027 A.L.F. and its multiplication on a large scale would be in full swing.

The Report of the Sectional Sub-Committee was approved. •

SUBJECT 47.—Seed Distribution and the Extension Schemes—Progress Report on the United Provinces C.402 Scheme.

Sanctioned in 1934 for a period of five years for the distribution of C.402 seed in the Hardoi, Lucknow and Sitapur districts of the U. P. work was actually commenced in April 1935. As the cultivation of C.402 required more care than the local cotton it was decided as early as 1935 to restrict its cultivation to Madhoganj and Bilgram tehsils only, and to extend in the remaining areas covered by the scheme another variety, C.520, which was better suited than C.402.

The Sectional Sub-Committee was not satisfied with the progress made and recommended that the scheme should be wound up forthwith in any case not later than 1st September 1937.

Mr. Richards thought that the failure of one year on account of adverse weather conditions merited the criticism that the scheme was not working satisfactorily. He was of opinion that the scheme, which was only started in May 1935, should be allowed to continue for its full period. In case the Committee was not prepared to continue for the full period it should be at least worked till the end of 30th April 1938.

Mr. Allan supported Mr. Richards and said that a large number of obligations had been entered into with the cultivators. In any case, he thought a decision should be deferred till the current year's report was out.

Mr. Richards' proposal that the scheme should be continued till 30th April 1938 and reviewed again at the next meeting of the Committee was approved.

SUBJECT 49.—Seed Distribution and Extension Schemes—Proposals for additional staff.

The Committee were of opinion that the demands made were extravagant and granted the additional staff of one junior assistant (scale Rs. 45-5.60) and four kamdars on the lowest scale at present for the Right Bank.

SUBJECT 4.—Progress Report on Broach Cotton Breeding Scheme.

The Scheme during its career of five years had yielded good results and the Sub-Committee noted with satisfaction the effective progress made at this station. The object of the scheme is the breeding of suitable types of cotton for the Nerbudda-Mahi zone which would have high yielding, high ginning and good spinning qualities combined with wilt resisting properties to replace the local mixture consisting of a large percentage of Goghari, a coarse, short staple variety susceptible to wilt. Various crosses were critically studied and out of the 13 single plant cultures of B.D. X G.A. 26, F5 generation, 33 of B.D. 8X (B.D. 8X G.A. 26F.1) F3 generations and 6 of B.D. 8X S.7.1, F3 generation have been found free from wilt attack. Some of these cultures were fairly uniform from economic point such as yield, ginning outturn, staple length and fineness of fibre. Of the single line selection N.S. 12 maintained its record of wilt resistance and other economic characters.

The Sub-Committee could not appreciate the further selection of progeny 5-18 (B.D. 8X B.D. 8-G.A. 26-F1)—4F in view of its apparently high wilt attack. The Sub-Committee further emphasized the need of keeping the work within the limit of the ability of the staff and suggested that before the distribution of any strain its root system might be studied.

The Report of the Sub-Committee was adopted.

SUBJECT 5.—Progress Report of Jalgaon Cotton Breeding Scheme.

This scheme was commenced in April 1932 with the object of securing by unit selection or hybridisation suitable wilt resistant types with heavy yielding and high ginning and good spinning qualities in place of the local N.R. and Banilla in Khandesh. Banilla is superior to local N.R. in ginning and spinning but is susceptible to wilt and has recently deteriorated in spinning qualities. Three selections N.V. 57-7 N.V. 56-3 and N.V. 56-17 have held their superior position over the local N.R., N.R. 6 and Banilla in all respects. Many other promising selections were under tests for wilt resistance.

The Sectional Sub-Committee were satisfied with the progress made and had only one suggestion to make, viz., that statistical results might conform to recommendations of the Imperial Council of Agricultural Research.

The Report of the Sectional Sub-Committee was adopted.

SUBJECT 7.—Progress Report on the Scheme for breeding of wilt resistant cottons in Surat area.

As the scheme had just begun it was thought proper not to pass any opinion. It was suggested that Dr. Uppal's services as Mycologist should be officially requested when mycological schemes were discussed.

The report of the Sectional Sub-Committee was adopted.

SUBJECT 1.—Progress Report on Scheme for the Improvement of Kumpta Cotton in Hyderabad State.

The preliminary work for the opening of the Kumpta Cotton Scheme in Hyderabad as done by the Economic Botanist at Raichur was approved by the Sectional Sub-Committee.

SUBJECT 10.—Progress Report on Bikaner Bengals Cotton Improvement Scheme.

The scheme was a direct result of the colonization of the Gang Canal area with immigrant Punjab peasants who were conversant with the cultivation of Punjab *Desi* and the American types of cotton. But as the local conditions were different from those obtaining in the Punjab as regards irrigation water-supply fears were entertained that the area under cotton would be seriously reduced. It was, therefore, proposed to sanction this scheme to study local problems of the agriculturists and obtain by selection or hybridisation more superior types of cotton suitable for the locality. Experiments carried out during the five years of the scheme since 1931 clearly show that owing to their low yield and susceptibility to diseases the Americans are unsuitable for the areas. It was found that Cawnpore 520 *Desi* was the most profitable variety to grow in that locality. It does not require much watering and gives normal yield with as few as four irrigations.

The Sectional Sub-Committee suggested that investigations might be carried out to find out the cause of defective germination and suggested the inclusion of Jubilee cotton for the improvement of the quality.

The Report of the Sectional Sub-Committee was adopted.

SUBJECT 11.—Progress Report on Bengal Comilla Cotton Scheme.

This scheme was started with the object of botanical studying and improvement of the commercial grade of *Cernuum* cotton in 1934. So far the work carried out consisted of studying the field and commercial characters of the single plant selections obtained from different types of Comilla and Assam types of cottons. Reciprocal crosses were also made with local types and Garrowhill No. 6.

Looking to the recent work of the station the Committee felt that more work was being attempted than the staff employed justified, and they doubted whether the observations made on a number of plants mentioned could be completed.

Mr. Allan submitted that a small Committee of plant Breeders should formulate some definite lines of work which the Cotton Research Officer should follow.

The President observed that the Cotton Research Officer, Rangamati, had been sent from Indore but apparently he seemed not to have followed Mr. Hutchinson's instructions. He, therefore, suggested the formation of a small Sub-Committee, consisting of Mr. Ramanathan, Mr. Ramiah, Dr. Badami, Dr. Sethi and Mr. Mahomed Afzal, to draw up suggestions for his guidance.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 13.—*Progress Report on Punjab Botanical Scheme.*

This Scheme was started in 1925 with the object of enquiring into the causes of the periodic failures of American cottons in the canal areas and obtaining suitable types of American and *Desi* types to replace 4F and *Desi* cottons respectively. After extensive trials under different conditions of soil and climate it was finally decided that 43F was the best suited of the new American types to replace 4F. In the year 1936, 43F maintained its superiority over the old types 4F, 289F and L.S.S. and gave satisfactory yields under field conditions. Another new type, 38F was gaining popularity in the drier parts of the Province where jassid was not a serious pest.

Still another variety which is superior to 43F in respect of yield, ginning outturn and hardness and which can spin 50's standard warp was under final tests and should be issued under the designation 47F.

In view of the importance of the economic value of the problem of breeding a physiological scheme was sanctioned. It commenced work in March 1935. Investigations were started with a view to find out the causes of the periodic failures which were attributed to different factors like heat stroke, unfavourable combination of soil and climatic factors, white fly and jassid attack and concentration of salts in the feeding zones of the roots, though none of these theories were supported by scientific data. Manurial tests carried out with magnesium, manganese and iron salts gave no satisfactory results. The next line of attack was the study of the internal structure of the plant. This line of investigation gave some significant results, revealing certain abnormalities in the leaf, stem and root which are probably responsible for the defective boll-opening.

The Sectional Sub-Committee's observation "long continued research scheme" was deleted at the suggestion of the President.

To the criticism that too many strains issued out to the cultivator caused confusion amongst the trade Mr. Stewart replied that in dealing with new cottons the policy that the Agricultural Department was to try out on private farms and if the results were useful then to distribute them for general use.

The report of the Sectional Sub-Committee was approved.

SUBJECT 19.—*Progress Report on the Root Rot Scheme.*

Work on this scheme was commenced in 1932 with the object of finding out the cause and checking the spread of the root rot in the Punjab, specially in the Canal Irrigated areas, where the damage caused was high as Rs. 16 lakhs. The disease affects both the American and the *Desi* varieties. However cotton grown under rainfed conditions are immune from the ravages of this disease. The root makes its appearance towards the end of June and continues until the middle of September. The two organisms *Rhizoctonia bataticola* and *Rizoctonia*—are carried over from year to year in live as well as decayed roots unlike the American root fungus which thrives only in live roots. There is no variety of cotton at present which can resist the disease. Tests carried on both *Desi* and American plants that were sowed in 1934 and examined in 1935, proved that they were only escapes but were not resistant to the disease. Physiological tests carried out show that application of ammonium salts might prove useful to minimise the disease but further confirmation is wanted.

Further results obtained during the year under report show that definite relations could be established between the incidence of the disease to the soil, moisture, date of showing and temperature. Little or no progress was made in the discovery of any variety with any marked resistance. It was decided that work in this direction should be the primary object of the scheme in future.

Mr. Stewart, however, disagreed with the findings of the Sectional Sub-Committee that nothing seemed to have come out of the scheme. He drew attention to the mortality statistics which indicated that if the practice of late sowing was followed it could definitely check the root rot disease. According to him the scheme would be one of the most successful ones.

The report of the Sectional Sub-Committee was approved.

SUBJECT 20.—*Progress Report on Baroda Root Rot Scheme.*

This scheme was started with the double object of studying the root rot disease and the finding out of suitable types of cotton that would resist the disease in 1932. The results of the past five years of experiments show that the disease is less severe in years of normal rainfall than in years of high rainfall and also in late sown crops than in early sown ones. The organisms found in the affected roots were *Macrophomina phaseoli*, *Nemas* and some *Fusaria*. According to experimental results the real cause of the disease are the first two organisms while the *Fusaria* are practically harmless. Ammonia seems to have a retarding effect on the organisms while those that were exposed to formaldehyde were killed. Five types of cotton, viz., K. S., B.S., D.S., No. 8 and No. 9, were found to be more resistant to the root rot disease, K.S. being the most promising than the rest. Experiments carried during the year under report show that progress made towards the evolution of a more resistant type of cotton with other economic qualities appeared to be satisfactory. The soils treatment of any kind produced little or no result while the application of any materials not feasible on a field scale for checking the growth of organisms were scarcely worth experimenting.

The report of the Sectional Sub-Committee was approved.

SUBJECT 28.—*Progress Report on Plant Puller Propaganda Scheme in Surat and Broach Districts.*

This scheme was the result of the Surat Boll-worm Clean-up scheme sanctioned in 1930. The object of the scheme was to prove to the cultivator in Gujarat the advantages of removing cotton stalks and stubbles before end of May so as to deprive the pink and spotted boll-worms of the food material. The scheme brought home to the peasant the necessity of clearing his fields of the stalks and stubbles as he obtained 25 to 30 per cent. more yield as a result of the clean-up. After the scheme was terminated in 1934 the Committee sanctioned the Plant Puller scheme to popularise the implement as a cheap and effective means of uprooting the cotton plants. By means of propaganda work through public lecture, lantern shows and demonstrations much practical results were obtained during the year under report. In the year 1936 the area uprooted totalled 56,000 acres or 20 per cent. in Surat and 143,296 acres or 62 per cent. in Broach District. The progress maintained in the following year was considered satisfactory.

SUBJECT 29.—*Progress Report on Plant Puller Propaganda Scheme in Baroda State.*

Identical with the Scheme carried out in Bombay, Gujarat in the districts of Surat and Broach, work on the scheme in Baroda State was commenced in January 1936. Simultaneous start was made in Baroda and Navsari districts on the same lines as in Broach and Surat and as a result of intensive propaganda work 3,000 plant pullers were distributed in Baroda District while 577 were in use in Navsari District. The demand from Baroda for plant pullers was so high that the manufacturers could not cope with it. However the demand in Navsari was low owing to a feeling amongst the peasants that uprooting of roots would affect the physical texture of the soil. It was decided to concentrate the staff on a more restricted area, specially in Navsari District, where a good deal had yet to be done. The scheme would have to be continued for two years more to get some tangible results.

SUBJECT 30.—*Progress Report on the Joint Scheme for Estimation of effects on cotton crops of use of Plant Pullers in Bombay Presidency and Baroda State.*

The results achieved by both the schemes seem to be satisfactory. The method of attack appeared to be the best and the indications were that pulling was advantageous to the cultivator. As climatic conditions were peculiar the precise estimation of the effects could not be obtained. The work required to be repeated.

Mr. Richards expressed satisfaction at the results obtained as eradication was 95 per cent. though their aim should be 100 per cent. eradication. He suggested the concentration of work on restricted areas.

Mr. Jenkins observed that the concentration on restricted areas was not overlooked but it was handicapped to a certain extent by the rise in the price of pullers. He was doubtful whether cent per cent eradication would be possible without legislation and since so far they have been able to achieve 95 per cent. it was worthwhile having some form of legislation so as not to jeopardise the good results by the 5 per cent. of the cultivators who allowed the stalks to remain in the fields. Referring to the estimation of the efficiency of the clean-up, Mr. Jenkins thought that the work would have to be carried on for a period of ten years.

The report of the Sectional Sub-Committee was approved.

SUBJECT 34.—Final Report of Burma Cotton Improvement Scheme.

Work on this scheme was started in April 1934 with a view to bring home to the cultivator the improved methods of cotton cultivation, specially in the Wagale tract, by means of practical demonstrations. The Committee provides funds for the employment of 24 demonstrators and the necessary implements. The demonstrators were in charge of demonstration holdings in the four districts of Meiktila, Myingyan, Sagaing and Lower Chindwin. The average yield of the demonstration holdings was 39 per cent. in excess in Meiktila, and Sagaing Districts while the yield was as high as 47 per cent. in Lower Chindwin and 51 per cent. in Myingyan. The improvement in the cotton cultivation after six years' work was quite satisfactory and it appeared that what had been done was well worth the money spent by the Committee.

The report of the Sectional Sub-Committee was approved.

SUBJECT 48.—Research Schemes—Proposed Extensions of :—(aa) Plant Puller Propaganda Scheme in Baroda.

As the work of the two years was satisfactory and as the period was too short to estimate the results of complete eradication it was decided to extend the scheme so as to carry out the work successfully. The Sub-Committee felt that the amount allotted for the travelling of the assistants was too small and should be raised to Rs. 600 per annum. As the Baroda Government was already spending a considerable amount of money on their own cultivation schemes, it was not considered proper to press them for more money. The Committee was, therefore, asked to give the same help as was given to Bombay-Broach areas.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 48.—Research Schemes—Proposed extension of :—(c) Joint Scheme for the estimation of effects on cotton crops of the effects of Plant Pullers in the Bombay Presidency and Baroda.

A large area was covered in Broach tract and though distinct advantage was obtained in the pulled areas, the distribution of the rainfall being very peculiar it was impossible to say the results obtained were due to plant pulling alone. It was hoped that some more definite results would be obtained in the current year. In view of the recommendations of the Sub-Committee the scheme was further sanctioned for a year.

SUBJECT 51.—Proposed New Seed Distribution and Extension Schemes. (a) Scheme for the maintenance of a pure nucleus of K.T. 25 cotton in the Punjab.

A five-year scheme for the production of a strain of K.T. 25 resistant to jassid was proposed at a cost of Rs. 12,585. The proposal met with a strong opposition specially from the trade, as it thought inadvisable to put more strains into the hands of the cultivators. It was argued that there were already four good strains in the Province and what the trade wanted was the development of good strains over large areas for at least 25 years. The Committee should concentrate on successful strains which had been produced. Already a mixture of strains had taken place and 289F had deteriorated.

Mr. Jenkins opposed the proposal on the ground that it was never the intention of the Committee that its resolution should be made the basis of seed multiplication and other work. He was of opinion that the Committee should adhere to the principle of maintaining nucleus schemes only for those varieties of cotton approved by the Committee.

Mr. Richards agreed with Mr. Jenkins and thought that the scheme should be turned down without any recommendation.

Dr. Burns was of opinion that the nucleus schemes were intended for pure cottons only and as the Department was not satisfied with K. T. 25 owing to its being jassid susceptible, the proposal should not receive their approval.

Mr. Stewart observed that the facilities offered by the British Cotton Growing Association in connection with the scheme were very large. Now if he was asked to come up with proposals for a botanical scheme for K.T. 25 variety the budget estimates would be much greater than those under consideration.

The President suggested that Mr. Stewart might be asked to put up fresh proposals making use of all the facilities available from the British Cotton Growing Association.

This suggestion of the President was agreed to, the original proposal of the sectional Sub-Committee being put to vote and lost.

SUBJECT 51.—(b) *Scheme for the Maintenance of a pure nucleus of seed of all varieties of cotton in the Bombay Presidency.*

After a considerable amount of discussion as to advisability of starting the scheme for the maintenance of pure nucleus only after the seed distribution scheme was discontinued or the simultaneous undertaking of the nucleus scheme it was decided that the Sub-Committee's schemes for each nucleus and the expenditure suggested be approved.

SUBJECT 56.—*Research Students—Final Report of Mr. C. Jayannath Rao.*

The Committee noted the results and thought that no comments were necessary.

SUBJECT 68.—*Final Report on Hyderabad Cotton Survey Scheme—Recommendations for improvement of Cotton in Hyderabad State—Reference from the last meeting of the Committee.*

The Report of the Sectional Sub-Committee was approved.

SUBJECT 51.—*Proposed New Seed Distribution and Extension Schemes : (c) Scheme for the maintenance of pure nucleus of seed of improved varieties of cotton in Sind.*

The proposal for the sanction of Rs. 3,000 per annum was reduced to Rs. 2,500 as the President observed that only five acres were involved incurring an expenditure of Rs. 500 per acre as against the expenditure of Rs. 300 per acre for the Bombay Schemes.

The proposal was agreed to.

SUBJECT 53.—*Punjab Botanical Scheme—Criticism of—By Mr. J. Vonesch.*

SUBJECT 61.—*Proposed restriction of improved types of cotton to be distributed in the Punjab.*

Resolution—"That in the opinion of the Agricultural Research Sub-Committee a marketing survey of cotton is desirable and should be taken up and that Mr. Livingstone be requested to prepare a scheme of marketing."

After a detailed discussion into the merits and demerits of the Botanical Research Scheme in the Punjab and the number of various varieties of cottons grown in the Punjab, discussion on the items Nos. 53 and 61 was carried on together. Sir Chunilal Mehta after amplifying his remarks in his letter regarding the deterioration of the Punjab-American cotton wanted to know whether this was due to (i) there being too many varieties, or (ii) there being not enough control over mixing. 239F was the only long-staple cotton produced in India and he wanted to know what the Director of Agriculture, Punjab, proposed to do to safeguard its purity.

Mr. Vonesch observed that part of his criticism covered partly the same ground as that by Sir Chunilal but his chief contention was that the Punjab Botanical Scheme had not progressed after all these 12 years running. He, however, did not condemn the scheme as a whole but wanted to know why the Botanical Scheme had not the same success to show as the rapid spread of L.S.S.

Mr. Vonesch continuing observed that the Indian Central Cotton Committee had previously recorded an appreciation of the Punjab seed operations and strange enough he had always to dig for information.

After further discussion the general conclusions were as follows :—(1) different climatic conditions within a province do demand different varieties of cotton.

(2) So far as possible, if these were likely to be mixed, they should have spinning values not far different from one another.

(3) The rate at which new strains should be given out *does* demand consideration, and (4) The difficulty regarding the introduction of an improved variety may often be got over by issuing a new strain under the old name or with a small addition such as the words "Improved" or the year of its improvements.

The President observed that the question of marketing had to be taken up more systematically than had hitherto been the case. Marketing now was specialised subject and was different from what it had been some years ago. Many who were very doubtful about the utility of such an academic survey, after having seen the work of the Imperial Council of Agriculture Research, had changed their mind. The results of the investigation already carried out by the Committee and the mass of the statistics collected required co-ordination.

Continuing the President drew attention to the fact that the Committee had been financing an elaborate and expensive scheme in connection with the cost of production of cotton. Instead of putting up a scheme for the Punjab alone, it would be far better if the Committee were to take up the whole question and work out an all-India scheme. The Millowners of Bombay and Ahmedabad should be asked to support the proposal and also to share the expenditure. He felt that the marketing Officer of the Imperial Council of Agricultural Research, Mr. Livingstone, would be glad to help in working out such a scheme.

The Resolution, after being seconded by Mr. Vonesch, was carried unanimously.

SUBJECT 54.—Bengal Comilla Cotton Scheme—Reply of the Bengal Government to criticisms made by the Committee at its meeting held in August 1936.

The Secretary's note was recorded.

SUBJECT 8.—Progress Report on Madras Herbaceum Scheme.

This scheme was one of the oldest of the schemes which commenced in 1923 with the object of obtaining from the local Uppam (G. Herbaceum) suitable types to replace Karunganni (G. Indicum) in "Salems" and "Tinnevellys" tracts where rainfall is low and uncertain. In years of good rainfall Karunganni gives a much higher yield than Uppam but in bad years the position is reversed Uppam being a harder variety gives a higher yield under adverse climatic conditions. The original intention of the scheme was to introduce one or more high yielding strains of Uppam which could spin at least up to 20's. After seven years' work it was found that the chances of obtaining pure strains from Uppam that would come up to the standard were few. The Committee, therefore, extended the scheme for a further period of five years for securing by hybridisation what was not possible by unit selection.

The new line of investigation had good results, the two hybrid strains—4803 and 4714 being promising. The latter strain has also stood a very good test in one of the most droughty and trying years experienced in recent times. In yield it had proved superior to the Karunganni and was capable of spinning up to 27's warp. It was satisfactory from the point of view of ginning outturn, drought resistance and ability to withstand the untimely February rains. It has, however, the disadvantage of being a narrow-lobed variety and contains 10 per cent. of sterile plants.

Further tests were carried out on the new strains and in May 1938 when the Scheme ends the position will be :—

- (i) 4714 strain very high yielding in spite of its proposition of sterile plants.
- (ii) 22 strains which would have had one year in the district test, and
- (iii) 191 selections would have been examined in single plant cultures for one year.

The report of the Sectional Sub-Committee was approved.

SUBJECT 25.—*Progress Report on the Scheme for the survey of Goghari cotton in Gujerat.*

SUBJECT 27.—*Progress Report on the Scheme for survey of Goghari cotton in Baroda State.*

The scheme for the survey of Goghari cotton was the direct result of the Committee's policy to establish 1027 A.L.F. to the exclusion of all other varieties of cotton in the tract lying south of the Nerbudda. Experiences revealed that to successfully achieve their object the Committee must start a campaign against Goghari, an inferior short-stapled variety favoured by the ginners because of its high ginning outturn. A separate scheme for the survey of Goghari was, therefore, started in 1935 with a view to trace this cotton to the gineries' and dissuade the peasant from cultivating this variety. As a result of the campaign the total area under Goghari was reduced from 1,813 acres in 1935 to 660 acres in 1936. Now, however, legislation has been passed both by the Bombay and Baroda Governments prohibiting the cultivation, mixing or possession of Goghari in Gujerat. It is hoped that this cotton will completely disappear in a year or two. After the passing of the Act, not much trouble was experienced as the cultivator has come to realise that growing of Goghari must be given up.

The Report of the Sectional Sub-Committee was approved.

SUBJECT 35.—*Programme of experimental work on the scheme for the inclusion of Northern and Western cottons in the Programme of work of Dry Farming Scheme at Bijapur.*

It was pointed out that Jayawant was not exactly a Western cotton but belonged to the Kumptas as also the local Kumpta. It was suggested that they should be added to cultivators' crop seeds of Northern and Westerns to the experiment. A further suggestion was made to exclude oil-cakes from the proposed treatment and that in addition to fallowing and rotation green manure should be put in.

The President drew attention to the fact that dry farming schemes had attracted notice in States in Rajputana, Bikaner and Jodhpur and they wanted to know the results as their problem was also insufficient rainfall.

The report of the Sectional Sub-Committee was approved.

SUBJECT 36.—*Report on tour in Iran to collect Herbaceum cotton.*

The tour had been a success and the collector was able to bring back a large collection 1,400 seed samples. Out of the collection some hirsutums have been sent to Cotton Research Botanist, Punjab, and some to the Cotton Specialist, Madras; of the herbaceums some were sent to the Cotton Specialist, Madras, and the remainder to the cotton Botanist, North Gujerat, Viramgam.

The report of the Sectional Sub-Committee was approved.

SUBJECT 60.—*Report on the Work of Technological Assistants.*

- (a) Lyallpur,
- (b) Coimbatore,
- (c) Dharwar,
- (d) Surat, and
- (e) Sind.

Dr. Nazir Ahmad after going through each of the reports came to the conclusion that two of the reports showed a lack of critical faculty in the Technical Assistants and that the reports in future might be more closely examined by the cotton Breeders under whom the Assistants were working.

Objection was raised to the remark that the Assistants in two cases showed lack of critical faculty. In research work unusual things did crop up and what Dr. Nazir Ahmad ought to have asked for were more particulars. To prove whether the conclusion was correct further two years' experimentation was required.

The President observed that the Technical Assistants would do more careful work in future.

The report of the Sectional Sub-Committee was approved.

SUBJECT 14.—Progress Report on Central Provinces Botanical Scheme.

This scheme was one of the Committee's earliest schemes started in 1923 for the purpose of finding out wilt-resistant, high yielding and fine spinning types of cotton suitable for the Central Provinces and Berar. This scheme started with an initial advantage in so far as the Agricultural Department had already started the work of selection and in a very short time it was possible to obtain a new type Verum 262 which looked at the time as satisfactory from all point of view. However, it was later discovered that it was unsuitable as it was susceptible to adverse climatic conditions. Immediate work was undertaken to find out other strains free from this defect and if possible with better spinning qualities and greater yield. The object has now been achieved and it was a matter of a couple of years when Verum 262 would be completely replaced by three superior varieties, V-434, Late Verum and V. 438. V-434 has proved its superiority over all the new strains under different conditions of soil and climate. It is prolific with resistant, quick in forming buds and setting bolls and comparatively low shedding. It spins up to 32's standard warp and fetches a premium over Broach.

Late Verum is suitable for areas where the monsoon lasts late in the season.

V-438 is specially suitable for soils of lighter description. Its lint is as good as that of V-434.

Other new strains under observation are Buri A. K. special and No. 107. Work on Bani 306 and B. B. 31 (indicum types) was continued and six new promising types have been isolated from them.

It was pointed out that the Bani Cernuum cross had spun as high as 34's. The selection in the Verum types was now in the direction of giving them a strong stem to stand up their heavy load of bolls. The topping experiments would take another two years. In this connection the tour to Iraq had some lessons to teach them as the practice in that country to hasten maturity was to pluck the leaves and to top the stem of cotton plants.

To an inquiry as to the area under Roseum it was stated that Roseum was not grown pure anywhere and that there was no consolidated area under it.

The report of the Sectional Sub-Committee was approved.

SUBJECT 26.—Final Report on the Scheme for survey of Cotton in Rohilkhand and Bundelkhand, United Provinces.

This scheme commenced in 1933 with the object of carrying out a detailed survey of the Bengali types of cotton grown in Rohilkhand and Bundelkhand and to select suitable types. The survey was carried in Moradabad, Naini Tal and Bijpur districts of Rohilkhand and samples were collected from no fewer than 2,479 villages. White-flowered variety was comparatively rare, the predominating type being narrow-lobbed yellow-flowered variety with varying quality of lint.

A similar survey was made in the districts of Bundelkhand and all the promising plants were saved for further tests.

In the year under report nothing farther than a large number of variable material was collected which should be useful for further plant breeding purposes.

The President observed that one of the conditions precedent to a grant from the Committee was that the results of the scheme should be available for publication.

It was therefore proposed :

RESOLUTION :—" That Dr. Sethi be requested to put up a detailed report as far as possible on the data available in connection with the scheme so that the report could be considered at the next meeting of the Sub-Committee."

The resolution was carried.

The report of the Sectional Sub-Committee was approved.

SUBJECT 50.—Scheme for Cotton Breeding in the United Provinces.

The President observed that as the local Government had withdrawn the scheme the report of the Sectional Sub-Committee should be deleted.

This was agreed to unanimously.

SUBJECT 63.—*Relative performance of Gaorani 4 and Gaorani 6 cottons during the four years 1933-36—Reference from Local Sub-Committee.*

Tests carried out show that Gaorani 6 had scored all along the line. Dr. Nazir Ahmad found that Gaorani 6 mixed well with Surat and Wagad but not with Bengals. It should not be mixed with a cotton that was markedly shorter. It was also found that Gaorani 4 should not yet be completely discarded.

The report of the Sectional Sub-Committee was approved.

SUBJECT 68.—*Growing of cotton in the United Provinces—Reference from the Secretary, Upper India Chamber of Commerce.*

It was felt that the question could not be considered until the United Provinces Government had replied to the letter.

The report of the Sectional Sub-Committee was approved.

SUBJECT 6.—*Progress Report on Scheme for the Improvement of Wagad cotton at Viramgam.*

This was a new scheme started in May 1937. There were no results to review yet. The original scheme contemplated work on Neglectum cotton at Amreli for which an Assistant has been specially appointed.

The report of the Sectional Sub-Committee was approved.

SUBJECT 9.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

Work on this scheme was started in February 1933 with the object of finding out one or more suitable annual types of cotton to replace the local Nadam, a perennial variety of cotton in the red soil areas of Salem and Coimbatore Districts where owing to the poverty of the soil and precarious rainfall neither Karunganni (G. Indicum) nor Uppam (G. Herbaceum) grows satisfactorily. Being a perennial cotton Nadam serves as an ideal breeding ground for stem-weevil and pink boll-worm. Experiments carried so far have borne excellent results and there are indications that suitable annual types to replace Nadam could be available. A large number of selections from Co. 2 (Cambodia) and Nadam and crosses between Co. 2 and Bourbon, Co. 2 and South African Cottons, Bourbon and South African Cottons, Nadam and Karunganni and Nadam and Karunganni backcrossed Karunganni were tested and the results obtained from some of the crosses between Co. 2 and U. 4 (South African) were quite encouraging.

The past year has not contributed much to solution of the problem owing to unfavourable weather conditions. The crosses promise to give better results than the selections from Nadam.

The report of the Sectional Sub-Committee was approved.

SUBJECT 15.—*Progress Report on Hyderabad Botanical Scheme.*

Work on this scheme was commenced at Parbhani for the purpose of obtaining a few uniform types of cotton with a prolific ginning outturn and good spinning qualities to replace the present mixtures of Gaorani Cotton in the Hyderabad State. Four varied tests were carried, two for the comparison of Gaorani or medium staple strains intended for Gaorani tracts and two short staple strains for short staple areas of Parbhani and Aurangabad Districts. In the first tests it was demonstrated that all the old strains tested, viz., G. 4, G. 6, G. 55 and P. 25, are about equal to one and decidedly superior to the local Gaorani mixture. In the second test at Parbhani G. 4, G. 3B-1, G. 58-E, and P. 26 all gave higher yields than the local Gaorani mixture. In the field tests G. 4 somehow failed to come up to expectations while G. 6 fared better.

In view of the good results so far achieved it was decided to start a farm with buildings at Nanded with as little delay as possible. It is understood that proposals in this connection are before the Hyderabad Government.

The report of the Sectional Sub-Committee was approved.

SUBJECT 16.—*Final Report on the Punjab White-Fly Scheme.*

The scheme was started with a view to study the life-history of the white-fly (*Bemisia gossypiperda*), a small sucking insect that does damage to the cotton and other crops. Work was commenced in 1931 and completed by the end of September 1936.

It was suggested that as soon as the economics of the spraying were settled, the Punjab Agricultural Department should publish a leaflet in popular language, explaining the damage done by this pest and the means of controlling it.

The report of the Sectional Sub-Committee was approved.

SUBJECT 17.—*Progress Report on the Central Provinces and Berar Entomological Scheme.*

SUBJECT 48.—*Research Schemes—Proposed Extensions of—Central Provinces and Berar Entomological Scheme.*

Work on the scheme was commenced in June 1934 with the object of a preliminary survey of the cotton boll-worm pest in the Central Provinces and Berar and to ascertain its incidence, method of carry-over and the extent to which the results obtained in Surat Boll-worm Clean-up Scheme could be usefully applied to the Province.

The work of the past years showed that there were three types of boll-worms, viz., the spotted boll-worm (*Earias fabia*), the pink Boll-worm (*Platyedra gossypiella*) and the Cotton Boll-worm of America commonly known as gram caterpillar. The Pink Boll-worm, however, was not a serious pest in the Central Provinces and Berar.

The gram caterpillar was hitherto unknown in India and it was found for the first time in 1936 to have done damage to the cotton crop especially in Berar. Like the spotted Boll-worm the gram caterpillar begins boring the tender roots of the cotton seedlings and attacks later on the buds and young bolls.

The position of the cotton pest in the Central Provinces and Berar is about the same as in Gujarat and the only way to combat it is to adopt the clean-up methods so successfully tried in Gujarat, viz., to uprooting the stalks and stubbles and the eradication of alternative host plants as early as possible.

The Sub-Committee recommended that as the scheme originally sanctioned terminates in September 1937, it should be terminated at the expiry of that period. The local Government had also written to the Committee that it did not intend to continue the scheme in its present form.

The report of the Sectional Sub-Committee was approved.

SUBJECT 18.—*Progress report on the Hyderabad Pink and Spotted Boll-worm Scheme.*

SUBJECT 48.—*Research Schemes—Proposed Extensions of (d) Hyderabad Pink and Spotted Boll-worm Scheme.*

The scheme was started in January 1933 with a view to ascertain the actual damage done to the cotton crop by the boll-worm pest in the Godavery Valley, the process of its attack on the growing crops the mode of its carry-over from season to season and the effect of the control measures.

The results show that the spotted boll-worm is never absent from and increases in number in September and October while the maximum incidence of attack is in December. It lives during the off-season on cotton plants left over in the fields and on alternative hosts plants and pupates in cotton. The damage done by the pest was 10 to 8 per cent. of *kapas*.

The Pink Boll-worm Pest makes its first appearance in June and reaches its maximum incidence in January-February. The Pink Boll-worm passes its resting stage in the stored cotton. The damage done by this pest was estimated at 14 to 35 per cent.

The gram caterpillar, *Heliothis* (*Chloridea*), *obsoleta* has not attracted much attention in Hyderabad State.

Experiments have shown that pink boll-worm does not hibernate to any appreciable extent in the cotton seed but the unginned *kapas* is the source of carry-over of the pest. The most important source of reinfection is the black cotton soil. The possibility of control depends on the prevention of mass hibernation by cleaning up cotton sticks at sufficiently early date. Owing to abnormal weather conditions during the year under report the experiment for finding the optimum date for removing the cotton sticks was vitiated.

The estimated expenditure for the extension of the scheme of the research part of the scheme for one year would come to Rs. 12,679.

The report of the Sectional Sub-Committee was approved.

SUBJECT 21.—*Progress Report on Mysore (Doddahathi) Cotton Scheme.*

The scheme was started with the object of finding the red leaf strain of American Cotton suitable for Mysore State generally and Irwin Canal in particular. Work was commenced in February 1935 and the experiments so far carried indicate that Co. 2 (Cambodia), Gadag No. 1, 295-F-21 Ashmouni-37 and Uganda varieties are more susceptible to Red-leaf than 4-F-98, Sea-Island, Co. 1, Boss III-16, and Arboreum varieties. So far no absolutely immune variety has been obtained from standard varieties but M.A. 2, Sind-Sudhar, N.T. 38, and Co. 2, appear to offer the greatest prospects of success. None of the hybrids so far produced are immune from the disease.

The Sectional Sub-Committee Report was approved.

SUBJECT 22.—*Progress Report on Madras Pempheres and Physiological Schemes.*

This scheme was begun in February 1935 though the preliminary work was started in 1931 pending the return of two officers deputed to study plant physiology and bio-chemistry in England. The principle object of the scheme was to minimise by physiological and breeding methods bud, flower, boll shedding in Karunganni (*G. indicum*) caused by untimely rains and to devise control methods against cotton stem, stem borer (*pempheres affinis*), a serous pest in Tamil Districts.

On the bio-chemical side of the experiment the importance of gum formation affording protection against Pempheres attack was demonstrated.

On the botanical side of the scheme it is ascertained that out of the large number of varieties only four Quebradinho, Verdavo, Moco and Bourbon suffered low mortality from the pest.

It was also discovered that there were a large number of alternative host plants which increased the difficulty of controlling the pest.

It was pointed out that the problem was tackled from three aspects—botanical, bio-chemical and entomological. The results from the botanical side were satisfactory. But the same cannot be said of the results obtained from bio-chemical and entomological sides, which were of uncertain value.

The study of parasites has been effectively attacked but the method of controlling did not hold much prospect of success.

The report of the Sectional Sub-Committee was approved.

SUBJECT 23.—*Progress Report on Madras Fodder Cholam Scheme.*

This scheme was started in 1931 with a view to find out the causes, harmful effects of Cholam (*Andropogon sorghum*) as compared with those of Cumbu (*Pennisetum typhoideum*) on the succeeding crop of cotton in the black cotton soils of Tinnevely district and find out suitable remedial measures so that the cultivator might have his Cholam fodder without suffering any loss in the yield of his succeeding crop.

The results of the work carried out so far indicate that Cholam does not exhaust the soil any more than Cumbu though in the case of Cholam soils the clay contents tend to increase with crop growth.

Further investigations have shown that the low yield of cotton following Cholam grown for fodder was due to an increase in exchangeable sodium caused by growing fodder Cholam. This increase disappeared after the first cotton crop and no ill after-effects were noticed thereafter. The results indicate that thick sowing of cotton and the application of Gypsum and molasses would remove the harmful after-effects of this crop.

The scheme came to an end in June 1937 but as three out of the six years for which the experiment was conducted were unfavourable for the work and as the results obtained required to be followed up; the Department of Agriculture has decided to do work in future.

The report of Sectional Sub-Committee was approved.

SUBJECT 33.—*Annual Report of the Institute of Plant Industry, Indore.*

As it was not possible to examine the report in detail as it related to the work of a whole Research Institute, it was recommended that a Special Sub-Committee largely consisting of Botanists, should deal with the report.

The President suggested the appointment of a Sub-Committee consisting of Messrs. Ramanathan, Ramiah, Dr. Sethi, Rai Sahib Kalidas Sawhney and Mr. Mahomed Afzal to examine the report and submit its recommendations to the full Committee.

The suggestion was accepted.

SUBJECT 50.—*Proposed New Research Schemes—(a) Scheme for Cotton Jassid Investigation in Sind.*

The scheme proposed was identical with the one in operation in the Punjab and as a good deal of work done in the Punjab would be applicable to Sind it was considered proper to replicate the same work in Sind. The Sub-Committee, therefore, recommended that the Sind investigation should confine itself to ; (i) a study of the comparative infestatic of different varieties, and (ii) a study of the characteristic which give immunity or resistance, to the effect of weather, soil and agricultural conditions on the pest under local environments.

The Sub-Committee, therefore, came to the conclusion that a less expensive man than an Assistant should carry out the work in Sind.

SUBJECT 50.—*Proposed New Research Scheme—(b) Scheme for Investigation into black-headed cricket in Sind.*

The Sub-Committee considered that it was better to ascertain first the status of the black-headed cricket before the scheme could be sanctioned. It was, therefore, recommended that the proposal should be referred back to the Department of Agriculture, Sind, with a request that scheme should be put up after consultation with Rao Bahadur Ramachandra Rao and Dr. Hem Singh Pruthi.

This was approved.

APPENDIX VIII.

SUBJECT 76.—*Central Provinces Cotton Control Act, 1937.*

Secretary's Note.

The Indian Central Cotton Committee at its meeting held in August 1935 unanimously passed the following resolution :—

“ The Indian Central Cotton Committee requests the Central Provinces Government to reconsider the question of prohibiting the growing of Garrow Hill cotton, as in its opinion the action which the Local Government propose to take, *viz.*, the introduction of legislation to prohibit the sale of mixed cotton as pure, will not prevent the spread of this inferior cotton. The known presence of even small areas of an inferior cotton tends to lower prices in the markets where this cotton is sold and the growers of better quality cotton will also suffer. As the Central Provinces Government has accepted the policy of encouraging the growth of *Verum* cotton in the Central Provinces and Berar, the Indian Central Cotton Committee considers that the growing of Garrow Hill is inimical to that policy and positively detrimental to the interests of the better quality cotton growers and should be discouraged.”

As a result of the Committee's representation, a Bill was introduced in the Central Provinces Council in February 1936 and was passed into law towards the end of that year. The Act, of which a copy is attached,* received the assent of the Governor-General in Council on the 29th January 1937.

* Not printed.

The principal points of difference between this Act and the Bombay Cotton Control Act of 1935 are indicated below :—

Comparison of the Bombay and Central Provinces Acts.

BOMBAY.	CENTRAL PROVINCES.	REMARKS.
Preamble.	Preamble.	The object in Bombay Act is to prohibit the cultivation of Goghari cotton and the mixing of such cotton with other cotton and to prohibit or restrict the possession or use of, or trade in Goghari cotton or cotton mixed with Goghari cotton: The object in Central Provinces Act is merely to prohibit the cultivation of Garrow Hill Cotton.
Section 3 (a) and (b).	Section 3.	Central Provinces Act prohibits the cultivation of Garrow Hill cotton as a pure crop or a mixture.
Section 4 (a).	Corresponds with Section 4.	In the Bombay Act for cultivating Goghari cotton the fine is Rs. 20 for first offence and Rs. 50 for subsequent offence. In Central Provinces for cultivating Garrow Hill Cotton as a pure crop or a mixture or mixing such cotton with any other kind of cotton the fine imposed is Rs. 20 for first offence and Rs. 50 for second offence.
Sub-section b (i) ... do. b (ii)	Nil. Nil.	The words " causes to be mixed " are additional in Bombay Act. The fine imposed for breach of sub-section b (i) and (ii) is Rs. 500 for first offence and Rs. 1,000 for subsequent offence.
Sections 5, 6 (1) and (2), 7 (1), (2) & (3).	Nil.	In Bombay Act these sections are additional.
Nil.	Section 6.	Is additional in Central Provinces and there is no corresponding section in Bombay Act.
Section 10.	Corresponds with Section 8.	In Central Provinces " no such prosecution shall be commenced after six months from the date of commission of the offence " are additional.
Section 13.	Nil.	In Bombay Section 13 is additional.
Section 14 (1), (2), (a) (b), (c), (3), (4), (5).	Corresponds with 11 (1) (2).	For breach of any of the Rules the Bombay Act imposes a fine of Rs. 50 whereas the Central Provinces Act imposes a fine of Rs. 20. The Central Provinces Act does not specify the details under which rules are to be framed as in Bombay.

APPENDIX IX.

SUBJECT 77.—*Bhopal Cotton Control Bill.*

Secretary's Note.

A copy of the draft of the Bhopal Cotton Control Bill received from the Director of Agriculture and State Chemist, Government of Bhopal, is attached* for consideration. It closely follows the Bombay Cotton Control Act passed in November 1935.

2. The principal differences are indicated below :—

<i>Regarding penalties :—</i>		<i>For</i>	<i>Bhopal</i>	<i>Bombay.</i>
<i>Section 4 (a).</i>		1st offence.	Rs. 10	Rs. 20
Cultivating or attempting to cultivate inferior cotton	2nd „		Rs. 25	Rs. 50
<i>Section 4 (b)(ii)</i>				
For possessing, using or trading in or attempting to possess, use or trade in inferior cotton or any other cotton mixed with inferior cotton.	1st offence		Rs. 100	Rs. 500
	2nd „		Rs. 200	Rs. 1,000

Section 9(2).

For contravening provisions of sub-section (1) shall be fined Rs. 10 Rs. 20

These offences are for refusing to give facilities to the officer appointed to inspect land, building, boat, vessel, vehicle or place suspected to contain inferior cotton.

Section 14 (3).

For contravening any rule made under Sections 7 and 8 fine shall be Rs. 25 Rs. 50

Other differences are :—

Section 4.—The word “*knowingly*” appearing in the Bombay Act has been omitted in the first line of the Bhopal Bill.

Section 4 (a).—The words “*attempts to cultivate*” appearing in the Bhopal Bill are additional.

In *Section 4 (b) (i)* the words “*attempts to mix*” are used in the Bhopal Bill instead of “*causes to be mixed*” which appears in the Bombay Act.

In *Section 4 (b) (ii)* the words “*attempts to possess, use or trade in*” are additional in the Bhopal Bill.

3. The Bill was approved by the Local Sub-Committee at its meeting held on the 30th June 1937.

APPENDIX X.

SUBJECT 84.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936—Draft Rules under—Reference from the East India Cotton Association.*

Secretary's Note.

The Committee at its last meeting considered the attached letter from the Bombay Government forwarding Draft Rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, together with a copy of a letter No.473/17203, dated the 12th January 1937, from the Director of Agriculture, Bombay Presidency. The Local Government desired that the remarks of the Committee may be communicated to them after consultation with the East India Cotton Association. As the reply of the Association was not received in time for consideration at the last meeting of the Committee, the subject was considered by the Committee without the views of the Association and whilst communicating the attached views of the

Committee to the Bombay Government, they were informed that the reply of the Association would be forwarded to them when received. The views of the East India Cotton Association have since been received and are attached. These were considered by the Local Sub-Committee at its meeting held on the 2nd August 1937 and the following resolution was passed :—

“ Resolved that the letter of the East India Cotton Association be forwarded to the Government of Bombay with the remark that this Committee adheres to its previous opinions and considers that the admixture of 2 per cent. seed will be tantamount to nullify the provisions of the Act. Regarding the moisture also the Committee does not agree with the opinion of the East India Cotton Association. The Committee, however, agrees with the opinion of the Association as regards the license fee which should be not more than Rs. 100.”

The views of the East India Cotton Association will now be forwarded to the Government of Bombay together with the decisions of the Committee on them.

Copy of letter No. 5956-A/28, dated the 18th February 1937, from the Under Secretary to the Government of Bombay, Revenue Department, to the Secretary, Indian Central Cotton Committee.

SUBJECT :—Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936.
Rules under

With reference to your letter, No. 2654, dated 25th January 1937, I am directed by the Governor in Council to forward a copy of letter from the Director of Agriculture, No. 473/17203, dated 12th January 1937, together with the draft rules under section 13 of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, for consideration by the Indian Central Cotton Committee. I am to request that the remarks of the Committee on the draft rules may be communicated after consultation with the East India Cotton Association.

Copy of letter No. 473/17203, dated 12th January 1937, from the Director of Agriculture, Bombay Presidency, Poona, to the Secretary to the Government of Bombay, Revenue Department, Bombay.

SUBJECT :—Cotton Ginning and Pressing Factories (Bombay Amendment) Act.
Application of—in selected tracts of the Bombay Presidency.

I have the honour to invite attention to correspondence on the above-noted subject, ending with your Memo. No. 5956-A/28, dated 27th October 1936, forwarding copy of letter from the Secretary, Indian Central Cotton Committee, No. 1065, dated 21st October 1936. The subject of the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, to certain parts of the Bombay Presidency was fully discussed at the meeting of the Indian Central Cotton Committee, held on the 18th August 1936, and the resolution of the Committee, which is given in full below, was submitted to Government under the Secretary, Indian Central Cotton Committee letter No. 847, dated 12th October, 1936.

“ This Committee is of opinion that it is necessary to extend the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, to the districts of East and West Khandesh and other tracts particularly in view of the fact that the Central Provinces Government has only recently passed a similar Act. The Committee also desires to draw the attention of the Government of Bombay that the Bombay Act as at present worded cannot prevent the mixing of cotton waste with cotton and therefore requests the Government of Bombay to take in hand the necessary amendment so as to prevent the mixing of cotton waste with cotton.

The Committee also requests the Local Sub-Committee to report as to other areas in the Bombay Presidency to which it would be desirable to apply the Act.”

2. In your Memo. No. 5956-A/28, dated 26th September 1936, I have been asked to report, how the Cotton Ginning and Pressing Factories (Bombay Amendment) Act could be brought into operation in the districts of East and West Khandesh and in the cotton-growing talukas of the Nasik District. In my opinion, the preliminary steps required are

(a) the drafting of suitable rules under Section 13 of the Cotton Ginning and Pressing Factories Act, 1925 (XII of 1925) as amended by the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (IV of 1936) and

- (b) the issue of a draft notification under Section 3-A of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (IV of 1936) notifying the areas to which the provisions of the amended Act are made applicable and the date from which such application should take effect.

In this connection, I enclose herewith draft rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, and a draft notification for consideration by Government.

3. With reference to the draft rules, it will be noticed that Rule 3 (1), which deals with admixture of cotton, has been framed in two sub-rules (a) prohibiting mixture of ginned or unginned cotton with cotton waste droppings, etc., and (b) prohibiting prescribed mixtures of different varieties of cotton laid down in a schedule attached to the Rules. It is necessary to prescribe a mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning and pressing factory under Rule 3 (1) a of the Rules under the Act in order to bring such a mixture within the scope of Section 2 (aa) of the Act, i.e., a "prescribed mixture of different varieties of cotton" as in the original Cotton Ginning and Pressing Factories Act, 1925, Section 2 (b), cotton is defined to mean "ginned or unginned cotton or cotton waste," the only alternative would be an amendment of the definition of "cotton" in the original Act to exclude cotton waste, etc.

4. The application of sub-rule (b) above can be postponed for such period as may be prescribed in any local area or any local area may be exempted from its operation by notification by the Government of Bombay. In regard to the application of the Act to the districts of East and West Khandesh and the cotton-growing talukas of Nasik district, the application of sub-rule (b) of Rule 3 (1) has been postponed for a period of 5 years in the draft notification notifying the application of the Act to these areas. At present, the main object of the application of the Act to these areas is to check the malpractices of mixing of cotton with cotton waste, droppings, etc., watering and false packing only and, under present condition of cotton-growing in this tract, there is no urgent need for the prohibition of prescribed mixtures of different varieties of cotton. The preparation of the Schedule referred to in sub-rule (b) of rule 3 (1) will only be necessary when it is decided to apply the Act to any tract in which it is desirable to check the mixing of superior with inferior types of cotton.

5. In order to give effect to the provisions contained in Rule 8 (2) a, the co-operation of the Indian Central Cotton Committee will have to be obtained on permitting the analysis for moisture content of samples of cotton being carried out at the Committee's Technological Laboratory, Matunga. Similarly, in order to give effect to Rules 8 (2) b and 10 (3), the co-operation of the Board of Directors of the East India Cotton Association, Bombay, will have to be obtained by Government.

6. It is suggested that the Legal Remembrancer to Government may be consulted regarding the drafting of Form A, i.e., form of license to be issued under Rule 3 of the draft Rules submitted herewith.

7. In accordance with instructions issued in your Memo. No. 5956-A/28, dated 13th October 1936, forwarding copy of letter from the Secretary, Indian Central Cotton Committee, No. 375, dated 18th September 1936, the rules under the Act, when drafted, are to be submitted to the Indian Central Cotton Committee for remarks before submission to Government. Accordingly I have the honour to enclose herewith duplicate copies of this letter and of the draft rules under the Act, as prepared by me, and to request that Government may be pleased to submit them to the Indian Central Cotton Committee for consideration and remarks, with any such modifications as Government may consider to be necessary.

DRAFT RULES FRAMED BY THE GOVERNMENT OF BOMBAY UNDER THE COTTON GINNING AND PRESSING FACTORIES (BOMBAY AMENDMENT) ACT, 1936.

In exercise of the powers conferred by section 13 of the Cotton Ginning and Pressing Factories Act, 1925 (XII of 1925) as amended by the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (No. IV of 1936) the Government of Bombay are pleased to make the following rules to provide for the following matters, namely:—

SHORT TITLE AND COMMENCEMENT.

1. (1) These rules may be called the Bombay Cotton Ginning and Pressing Factories Rules, 1936.
- (2) These rules shall come into force from

1937

DEFINITIONS.

2. In these rules, unless there is anything repugnant in the subject or context :—
- (1) ' Act ' means the Cotton Ginning and Pressing Factories Act, 1925, as amended by the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936.
 - (2) " Section " means a section of the Act.
 - (3) " Factory " means a cotton ginning factory or a cotton pressing factory as defined in the Act.

ADMIXTURE OF COTTON.

3. (1) The mixture prescribed for the purposes of Section 2 (aa) shall be
- (a) a mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning factory or a cotton pressing factory,
 - (b) such prescribed mixtures of different varieties of cotton as are laid down in the attached schedule.
- (2) Notwithstanding anything herein contained, the Government of Bombay may, for such period as may be prescribed, postpone the application of sub-rule 3 (1) (b) or exempt any local area from its operation.

SEASON.

4. The season shall be the period between the _____ and the _____ in each year.

GRANT OF LICENCE.

5. (1) An application for a licence under this Act may be made by the owner of the factory to the Collector within the local limits of whose jurisdiction such factory is situated.
- (2) The fees prescribed for any such licence shall be two hundred and fifty rupees and every application for a licence shall be supported by a Treasury receipt showing the payment of the said amount in the Treasury.
- (3) Subject to the restrictions imposed by or under the Act, or under the rules, a licence shall be issued in form A.

Provided that in the case of factories constructed after the commencement of these rules, a licence shall not be granted except upon the production of a certificate from the Chief Inspector of Factories, Bombay, that the structural requirements specified in sub-sections (1) and (2) of section 9 have been duly provided in the factory for which the application for licence is made.

PARTICULARS OF COTTON GINNING FACTORIES.

6. The particulars of the cotton ginning factory prescribed under sub-section (2) of section 3 shall include, the name of the factory, its situation and the name of the owner or occupier.

PROPORTION OF SEED.

7. The proportion of seed prescribed under sub-section (2) (a) of section 3-A shall be one per centum.

AUTHORITY COMPETENT TO GIVE A CERTIFICATE OF MOISTURE.

8. (1) The Director of Agriculture or the Deputy Director of Agriculture of the Division concerned shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of cotton should have, as also the quantity of moisture it possesses.
- (2) Such certificate may be based on
- (a) an analysis of the cotton carried out at any Agricultural Research station of the Agricultural Department in the Bombay Presidency, or at the laboratory of the Indian Central Cotton Committee, Matunga, Bombay, at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay, or

- (b) the report of such members of the East India Cotton Association, not less than two in number, selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay, from the panel of arbitrators elected, under the rules in force for the time being of the said association.

COMPLAINT OF OFFENCES.

9. (1) Any person interested may make a complaint that there has been a contravention of the provisions of section 3-A of the Act in respect of any cotton, package or bale.
- (2) Such complaint shall be made in writing to the Director of Agriculture or the Deputy Director of Agriculture of the Division in which cotton was pressed and shall be accompanied by a sample of the cotton complained of; provided that no such complaint shall be entertained unless a fee of Rupees ten for each bale or package or part thereof is paid at the time of making the complaint.
- (3) The Director of Agriculture or the Divisional Deputy Director of Agriculture concerned, on receipt of such complaint, shall cause the cotton, package or bale in respect of which the complaint has been made, to be seized and sealed and shall forward the same for examination and report to the authority prescribed under these rules.

AUTHORITY COMPETENT TO EXAMINE COTTON, ETC.

10. The authorities competent to examine such cotton or the contents of such package or bale shall be
 - (1) the Director of Agriculture,
 - (2) the Deputy Director of Agriculture or
 - (3) any two persons selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay from the panel of arbitrators elected under the rules in force for the time being of the said Association.

SEALING OF COTTON SEIZED.

11. The cotton, package or bale shall be resealed in the manner prescribed in these rules after the examination referred to in Rule 10.

MANNER OF SEALING.

12. All things seized and required to be sealed under this Act shall be sealed with the official seal of the Officer sealing the same and, if the owner or the person in charge of the factory so desires, also with the seal, if any, which he may provide for this purpose.

Draft Notification.

Bombay Castle

1937.

No. (1) In exercise of the powers conferred by section 3-A of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936 (Bombay Act No. IV) the Government of Bombay is pleased to declare that the provisions of this Act are made applicable to all the ginning and pressing factories situated in the districts of East and West Khandesh and the cotton growing talukas of the Nasik District such as (1) Yeola, (2) Malegaon, (3) Nandgaon, (4) Baglan, (5) Kalwan and (6) Chandor with effect from 1937 in order to provide against watering of cotton, mixing of cotton with cotton waste, mill-fly, mill-droppings, etc., presence of excess seed and/or foreign substances in the cotton, etc.

(2) Under the provisions contained in Rule 3 (2) of the Rules framed by the Government of Bombay under the above-noted Act, the Government of Bombay is pleased to exempt the areas mentioned in para (1) of the notification from the operation of sub-rule 3 (1) b, for a period of five years from the date upon which the Act is made applicable to these areas, i.e., 1937.

VIEWS OF THE COMMITTEE.

Extract of letter No. 3959, dated 1st April 1937, from the Secretary, Indian Central Cotton Committee, Bombay, to the Secretary to the Government of Bombay, Revenue Department, Bombay.

SUBJECT:—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft rules under—*

(1) In carrying out moisture tests the Committee desires to suggest to the Local Government that the method adopted by the East India Cotton Association and the Technological Laboratory should be followed. Such tests are at present carried out by the Technological Laboratory with a standard Conditioning Oven, costing about Rs. 800. The Committee would be prepared to supply for the use of the Local Government a Conditioning Oven if they so desire.

(2) As regards draft rule 8 (2) the Committee is of opinion that the members of the East India Cotton Association should not be included among the authorities competent to give certificates of moisture tests.

(3) The Committee considers it very desirable that the Act should be put into operation before the commencement of the next cotton season in November 1937 to avoid the difficulties which would arise in dealing with cotton bales watered before the Act is put into force.

VIEWS OF THE ASSOCIATION.

Copy of letter No. 5146/B/103, dated 2nd July 1937, from the Secretary, The East India Cotton Association, Ltd., to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT:—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules under—*

I am directed to inform you that the Board of Directors of my Association have considered the draft rules, which were forwarded with your letter No. 3293, dated 25th February 1937, proposed to be made under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, and to communicate below their views thereon:—

Rule 5.—My Board presume that the license fee of Rs. 250 payable under clause 2 of this Rule is permanent and they are of the opinion that it should be reduced to Rs. 100. They consider that the fee should be much less than Rs. 100 if it is payable yearly. The Board are also of the opinion that only one license fee should be levied in case the Ginning and Pressing Factories are located in one compound and belong to one proprietor.

Rule 7.—My Board are of the opinion that the proportion of seed proposed to be prescribed under this Rule at one per centum is very low and consider that it should at least be 2 per cent. and that a sample to be examined for seed shall not be less than 10 lbs. The average proportion of seed contained in any lot shall be found out by taking into consideration the number of bales examined.

Rule 8.—My Board feel that there is no sufficient data available at present to enable the Association to prescribe what the normal moisture content of a bale should be. They further feel that the enforcement of the Rule will not be practicable at present as the normal quantity of moisture varies with—

1. the season in Bombay,
2. the season at the growing time,
3. the conditions at ginning and pressing time.

They are, therefore, of the opinion that if this Rule is allowed to stand those guilty of watering cotton may go scot-free, while the innocent may be punished. There may be cases in which the press-owners may not be responsible for watering, e.g., when cotton in transit may become wet by rain or other natural causes before pressing. Further, it should be made obligatory upon the press-owners to mark all bales, containing cotton wet by rain or other natural causes with the word "wet" on the hoops or stencilled in indelible ink on the hessian, and bales so marked should exonerate the press-owners from any penalty that may be prescribed for watering.

My Board, therefore, are of the opinion that this Rule should be omitted and a new one enacted which should provide for penalising the actual deliberate watering of cotton, which could be proved by evidence.

In 1935, certain recommendations were made to my Board by the Moisture Tests Sub-Committee of this Association regarding the normal moisture content for Indian cotton but no decisions could be taken thereon as they did not cover the whole range of Indian cotton. A copy of the recommendations made by the Moisture Tests Sub-Committee in regard to normal moisture content for Indian cotton, enclosed herewith, may be forwarded to the Government for their information with an intimation that the question is still under consideration of my Board and that similar tests on long stapled cotton are being carried out at present.

Rule 9.—Out of a lot of bales complained against for admixture of cotton at least two bales with a maximum of 4 per cent. should be opened for drawing samples and for examination and the decision as to the admixture contained therein should be applicable to the whole lot.

The fee of Rs. 10 for each bale or package to be levied under sub-clause (3) of this Rule should be made applicable to the actual number of bales to be examined and not to the number of bales complained against, *i.e.*, the total number of bales in the lot. This should be made clear.

My Board consider it very necessary to point out that the Government should give the result of their examination to the interested party within a week from the date of the seizure of bales and it should be laid down that a bale or bales once examined shall not be liable to further examination and in order to identify that a particular bale or bales have been examined, some identifying mark should be placed on the bales. It should be open to the buyer to obtain a copy of the official report of the examination of the bales seized.

My Board are further of the opinion that the Rule should provide for the right of the factory-owner to ask for a second examination of his lot within one week from the date of intimation of the result of the examination by Government of the bales complained against, in case he has reason to believe that the result of the examination is not fair, or that the bales complained of did not belong to his factory or that the samples were not representative.

Rule 10.—The word “elected” occurring in line 5 of clause 3 of draft Rule 10 should be replaced by the word “appointed.”

The award given by the arbitrators under clause 3 should be subject to the usual right of appeal to the Appeal Committee within one week from the date of receipt of intimation by the aggrieved party of the result of examination.

THE EAST INDIA COTTON ASSOCIATION, LTD.

Recommendations made by the Moisture Tests Sub-Committee of the Association, at their meeting held on 17th January 1935, *re* normal moisture content of Indian Cotton.

(1) That the effect of variety of cotton on its moisture content in case of short and medium staple cottons is small and for all practical purposes of the trade may be ignored.

(2) That the average moisture “regain” (that is, the percentage of moisture calculated on bone dry weight) of Indian cottons in Bombay taken all the year round is 7 per cent.

(3) That two “tolerance,” *viz.*, 1 per cent. for the fair season (1st November to 31st May) and $1\frac{1}{2}$ per cent. for the monsoon (1st June to 31st October) may be prescribed for the following reasons:—

(a) in view of cotton being picked under conditions of atmospheric humidity varying from 15 to 95 per cent. in different parts of India,

and

(b) in view of the high humidity prevailing in Bombay during the monsoon from 70 to 90 per cent.

(4) That the Director, Technological Laboratory, be requested to carry out moisture tests on long staple cotton, *e.g.*, Cambodia, Surat, etc., on small samples instead of on samples drawn from bales,

and

(5) That compensation be paid to the seller for cotton containing less than 6 per cent. “regain” during the fair season and $6\frac{1}{2}$ per cent. “regain” during the monsoon. The question of fixing the amount of compensation was left to the discretion of the Board.”

APPENDIX XI.

SUBJECT 73.—*Report of the Standing Finance Sub-Committee :—*

- (a) Balance Sheet as at 31st March 1937.
- (b) Final Accounts, 1936-37.
- (c) Revised Estimates, 1937-38.
- (d) Budget for 1938-39 (Government Servants).

Four meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee in March 1937. Messrs. J. L. Hurschler and M. S. Durutti resigned during this period and Messrs. J. Vonesch and S. B. Samoilys, who succeeded them on the Committee, were appointed in their vacancies. The Chairman of the Sub-Committee (Sir Purshotamdas Thakurdas) and Mr. Kasturbhai Lalbhai have temporarily gone out of India in connection with the Indo-British Trade Negotiations. Under Rule 4 of the Rules under Section 16 of the Indian Cotton Cess Act, Mr. Chandulal P. Parikh has been appointed on the Sub-Committee in the place of Mr. Kasturbhai Lalbhai; the place of Sir Purshotamdas Thakurdas remains unfilled.

2. A Balance Sheet of the Committee's accounts as at 31st March 1937 is submitted. This shows the income and expenditure under the budget heads from the beginning of the cotton cess, *i.e.*, for 14 years and has been prepared from the audited accounts. A Balance Sheet of the Provident Fund is also attached.

3. A Statement of Accounts for the year 1936-37 as audited by the Committee's Auditors is attached, together with the detailed Final Accounts. From this it will be seen that cotton cess receipts amounted to Rs. 8,02,766-7-0 against a revised estimate of Rs. 8,00,000. Interest on investments amounted to Rs. 1,13,550-3-4 against Rs. 1,12,960 estimated and miscellaneous receipts to Rs. 6,820-14-3 against an estimate of Rs. 8,000. Expenditure amounted to Rs. 10,51,116-11-7 against the total sanctioned budget of Rs. 12,81,289. There were savings practically under every head of expenditure, and these have been re-allotted for future use, if necessary, except the savings under "Administration," "Improvement of Cotton Marketing," "Printing and Propaganda," "Technological Laboratory—Working and Provincial" and "Research Studentships." The Closing Balance on the 31st March 1937 was Rs. 23,96,072-1-10 against Rs. 25,24,131-9-1 last year. The account of the Provident Fund for 1936-37 is also attached.

4. The Revised Estimates of Receipts and Expenditure for the current year are enclosed and are subject to such alterations as may be necessary consequent on the recommendations of the various Sub-Committees and the approval of the full Committee. No change has been made in the estimates for cotton cess, interest and other receipts. Required modifications will be made at the cold weather meeting of the Committee when more accurate estimates are possible. Expenditure has been estimated at Rs. 11,63,016 against the sanctioned budget estimates of Rs. 11,02,956, the increase of Rs. 60,060 being chiefly due to re-allotments and additional requirements under various schemes. At its meeting on the 2nd August 1937 the Sub-Committee expressed the view that it was absolutely necessary to balance the budget and desired that the Agricultural Research Sub-Committee should put up schemes so that it should not be necessary to draw upon the savings for financing current expenditure on the various schemes. The Sub-Committee also felt that there was scope for economy in the matter of establishment charges and that the Secretary should put up proposals for retrenchment at the next meeting of the Sub-Committee in consultation with the heads of sections.

5. As required by the Cotton Cess Rules, the Budget for 1938-39 for the pay of Government Servants employed in the Committee's office is submitted for formal sanction.

6. The Sub-Committee dealt with the Government accounts for 1936-37 for the fumigator of American cotton, and its recommendations form a separate subject on the agenda of the Committee.

7. The Sub-Committee considered proposals of the Director, Technological Laboratory, for the installation of a tube well in the compound of the Technological Laboratory at an estimated expenditure of Rs. 900 in all, being the cost of boring a well, installing an electrically driven pump and sundry charges, the expenditure to be met from the unexpended balance under the capital grant for the Technological Laboratory. The Sub-Committee decided to refer the matter to the Technological Research Sub-Committee at this meeting along with the question of the necessity of providing a garden in the Laboratory compound. The subject was accordingly dealt with by the Technological Research Sub-Committee and its recommendations will be found in its report to the Committee.

8. At its meeting held in July 1932 the Technological Research Sub-Committee considered the question of providing facilities for training outsiders at the Technological Laboratory in Cotton Technology and decided that the Director, Technological Laboratory, might at his own discretion, select two students per year for such training. The Director has since been admitting outsiders for training in Cotton Technology at the Laboratory on payment of the scheduled fee of Rs. 50 by each student. The Sub-Committee considered a letter from the Director in which he stated that he had received more than one request from prominent millowners asking him to give special training to one of their apprentices. As this training differed from the one which is given to the two students who are admitted to the Laboratory every year and as it referred only to a particular aspect of cotton fibre or cotton yarn testing and required only a short period, usually from one week to four weeks, the Director requested the Sub-Committee to decide :—

(a) Whether training may be given to mill apprentices.

(b) if so, whether any fee should be charged, and

(c) if the decision on (b) was in the affirmative, whether the fee should be left unspecified or whether some basis should be laid down for his guidance.

The Sub-Committee approved of the proposal of the Director, Technological Laboratory, to provide facilities for a short course of special training to such of the mill apprentices as were recommended by the Bombay Millowners' Association. The Sub-Committee also decided that till some experience was gained of this training no fee might be charged.

9. The Committee at its meeting held on the 2nd February 1933 accepted the recommendation of the Joint Sub-Committee of the Imperial Council of Agricultural Research and the Indian Central Cotton Committee and agreed to bear half the cost of the scheme of Economic Enquiry into the cost of production of cotton, sugarcane and their rotation crops at a total estimated expenditure of Rs. 5,12,000, the Committee's share of the expenditure being Rs. 2,56,000 spread over a period of 3½ years. Additional amounts were subsequently sanctioned by this Sub-Committee which raised the Committee's share of the cost of the scheme to Rs. 2,62,900, including two sums of Rs. 5,750 and Rs. 17,950 sanctioned at two of its meetings after the last meeting of the Committee.

10. The Committee at its meeting in November 1929 on the recommendation of the Technological Research Sub-Committee decided that only such trade tests as were of general interest and value to the cotton trade and mill industry and as the results of which could be published for general information should be undertaken at the Committee's Laboratory without charge. It was also decided at the time that a fee of Rs. 100 should be charged for each sample submitted by officers or departments outside India for a spinning test. An exception to the above decision was, however, made in the case of cotton samples submitted by the Department of Agriculture, Uganda, in view of the value of these tests to the Indian mill industry, the number of such samples to be tested free being restricted to 8 and a fee of Rs. 100 being charged for every additional sample. The Sub-Committee considered a letter from the Deputy Director of Agriculture, Myingyan Circle, Meiktila, enquiring what charges would be made for carrying out spinning tests at the Technological Laboratory on samples sent by him and decided that for a period of three years up to eight samples per year from Burma might be tested free with a charge of Rs. 100 for each additional sample.

11. The Committee at its meeting in August 1934 sanctioned the Plant Puller Propaganda Scheme in the Baroda State for a period of two years at an estimated cost of Rs. 9,380 which included a provision of Rs. 1,000 for "loss on the sale of plant pullers" at the rate of 4 annas per puller. This provision was raised by Rs. 2,250 by this Sub-Committee at its meeting held on the 8th January 1937 on the representation of the Commissioner of Agriculture, Baroda, who found the amount provided to be inadequate. In view, however, of the recent unexpected rise in the price of iron, the Sub-Committee considered and agreed to the proposal of the Commissioner of Agriculture, Baroda, that the rebate of 4 annas be raised to 7 annas per wooden-handled plant puller on 1,000 plant pullers. At a subsequent meeting, the Sub-Committee permitted the Commissioner of Agriculture, Baroda, to sell during the current season 5,000 plant pullers at Re. 1 per puller in addition to the 1,000 plant pullers already sanctioned by the Sub-Committee and that the loss incurred on these sales should be met from the grant sanctioned for the scheme.

12. The Sub-Committee approved of the appointment of the following members as representatives of the Committee on the Board of Governors of the Institute of Plant Industry, Indore, during the year 1937-38 :—

The President,
 The Vice-President,
 Mr. S. D. Saklatvala,
 Mr. G. C. R. Coleridge,
 Mr. Kasturbhai Lalbhai,
 Sir Chunilal V. Mehta,
 Rao Bahadur Sir Madhaorao Deshpande,
 Sardar Rao Bahadur Bhimbhai R. Naik,
 Mr. J. L. Hurschler,
 Mian Nurullah, and
 The Secretary.

At a subsequent meeting, the Sub-Committee approved of the appointment of Mr. J. Vonesch in the place of Mr. J. L. Hurschler, resigned.

13. In connection with the investigation undertaken by the Director, Industrial Research Bureau, Indian Stores Department, at the instance of the Committee for finding out the relative costs and the suitability of the various processes of the manufacture of artificial silk in India, the Committee at its meeting in August 1936 decided to place at the disposal of the Director of the Bureau for a period of six months in the first instance the services of Dr. L. Thoria, who was originally appointed as a temporary Chemist at the Technological Laboratory from the 1st May 1935 for one year on Rs. 350 per mensem and whose appointment was subsequently extended for six months at Rs. 375 per mensem. Dr. Thoria, who was relieved from the Technological Laboratory on the 28th October 1936, reported for duty at the Industrial Research Bureau on the 2nd November 1936. At the request of the Director of the Bureau, the Sub-Committee extended the period of the loan of Dr. Thoria's services to the Bureau by three months up to the 28th July 1937. In the absence of an incremental scale of pay of the post of Dr. Thoria, the Sub-Committee granted him an increment of Rs. 25 per mensem thereby increasing his pay to Rs. 400 per mensem from the 1st May 1937.

As the Director of the Bureau deemed it essential that Dr. Thoria should proceed with him to Simla, the Sub-Committee at its subsequent meeting sanctioned to Dr. Thoria travelling allowance at the rate of two II class railway fares each way and 4 annas a mile for road journey for himself, a single II class railway fare for his wife and each child over 12 years and a half II class fare for each child between 3 and 12, and two additional II class railway fares if his family accompanied him, this being the rate admissible to Government servants moving between Delhi and Simla. At the same meeting the Sub-Committee also considered an application from Dr. Thoria for a compensatory allowance or a house rent allowance on his transfer to Simla and decided that he should be treated in the same way as the subordinate officers of his rank in the Industrial Research Bureau, Indian Stores Department.

14. At its meeting held in March last the Committee sanctioned the extension of the Punjab Pink and Spotted Boll-worm Scheme for one year for writing-up the report on the scheme at an estimated cost of Rs. 9,056. At the same meeting the Committee also sanctioned the scheme for the clean-up campaign of the Spotted Boll-worm in the Punjab for a period of two years at a total estimated cost of Rs. 52,580 which included an Emergency Reserve of Rs. 20,000. The Sub-Committee at its meeting held in April 1937, at the request of the Director of Agriculture, Punjab, sanctioned the continuance of the post of the peon originally provided for the Assistant Entomologist in charge of the Pink and Spotted Boll-worm Scheme at an additional cost of Rs. 180 for a period of one year. The Sub-Committee also sanctioned the continuous employment of six fieldmen, out of the 40 fieldmen sanctioned by the Committee at its last meeting for work for four months in a year on the clean-up scheme, throughout the two-year sanctioned period of the scheme on a scale of pay of Rs. 20-1-30 as against the pay of Rs. 18 per mensem for the 40 fieldmen sanctioned by the Committee, the extra expenditure of Rs. 2,088 on this account being met from the Emergency Reserve of Rs. 20,000 sanctioned for the scheme. At its subsequent meeting, the Sub-Committee further sanctioned a

total grant of Rs. 11,200 (Rs. 8,000 for travelling allowance and Rs. 3,200 for stationery and contingencies) to be met from the Emergency Reserve. At the same meeting the Sub-Committee approved of the proposal of the Director of Agriculture, Punjab, for the revision of the scales of pay of the assistants employed on the Punjab Pink and Spotted Boll-worm Scheme and on the scheme for the clean-up campaign of Spotted Boll-worm from Rs. 100-10-135 to Rs. 80-7-150/7-185-8-225 and from Rs. 100-10-220 to Rs. 100-10-200/10-300 in order to bring the scales of pay of these posts in line with corresponding Government appointments.

15. The Sub-Committee considered a representation, received through the Director, Technological Laboratory, and the Publicity Officer, from the staff who were deputed to supervise the stalls of the Committee at the United Provinces Industrial and Agricultural Exhibition held at Lucknow from the 5th December 1936 to the 24th February 1937 and at the Delhi All-India Industrial Exhibition from 26th February 1937 to 11th April 1937 asking for the grant of daily allowance at a higher rate than that admissible under the Rules for the full period of their halt. Under Supplementary Rule 73, daily allowance may not be drawn for a continuous period of more than 10 days at any one place, but the head of a Department (Secretary of the Committee in this case) can permit daily allowance to be drawn for a period up to 30 days; any period of halt in excess of 30 days requires the sanction of the Government of India. The Sub-Committee decided that the staff should be paid daily allowance at the rate of Rs. 4-8 per day for the period of their stay at Lucknow and Delhi, and that the sanction of the Government of India should be obtained to make them to draw the allowance for more than 30 days. A reference was accordingly made to the Government of India in reply to which a letter was received from the President intimating that the Government of India were averse to granting relaxation from the rules and suggesting that the most appropriate course would be to give to those concerned an honorarium equal to the amount of daily allowance involved. The Sub-Committee at its subsequent meeting considered the President's suggestion and decided that in consideration of the fact that the Committee's clerks and junior testers are not normally touring officers, they might be given an honorarium up to an amount equal to the full daily allowance admissible to them when they were put on Exhibition duty. It was also decided that in accordance with the above decision the clerks and junior testers who attended Lucknow and Delhi Exhibitions should be paid honoraria equal to their daily allowance.

The Sub-Committee did not think it necessary to sanction any extra allowance to peons as they are always expected to accompany the Publicity Officer who is normally a touring officer.

16. The Agricultural Research Sub-Committee at its last meeting, while considering the Progress Report for 1936-37 and the programme of work for 1937-38 of the Punjab Physiological (Cotton Failure Research) Scheme, made the following recommendation which was accepted by the full Committee at its meeting held on the 3rd March 1937:—

“ The Sub-Committee further recommends that the President should write to the Empire Cotton Growing Corporation with a view to obtaining the services of Dr. Mason on his way back to Trinidad from England in order to inspect the Punjab Physiological Scheme at Lyallpur and to give his views. The extra expenditure involved on this account should be borne by the Committee.”

The Sub-Committee considered a letter from the President forwarding copy of a letter from the Secretary, Empire Cotton Growing Corporation, in which the Corporation agreed to lend the services of Dr. Mason and requested that Dr. Mason should be provided with housing and transport while in India and that he should be paid any other necessary expenditure incurred by him in India in connection with his work including the cost of any special apparatus which he might find necessary. The recommendation made by the President in this connection was that in addition to 1½ First Class railway fare and mileage by road admissible under the rules, the Committee should give Dr. Mason a monthly maintenance allowance which would cover all his expenses. The Sub-Committee sanctioned a lump sum of Rs. 5,000 towards the out-of-pocket expenses of Dr. Mason during the period he remained in India and for any apparatus he might require. At a subsequent meeting the Sub-Committee considered the question of the purchase of a second-hand car for the use of Dr. Mason and decided that the Director of Agriculture, Punjab, should be requested to make the most economical arrangements for the requirements of Dr. Mason.

17. At the meeting of the Committee held in March last, in the course of the discussion on the draft rules under the Cotton Ginning and Pressing Factories (Bombay and Central Provinces Amendment) Acts, it was decided that as the Governments of Bombay and the Central Provinces had amended the Act at the Committee's suggestion, the Committee should provide them with the necessary conditioning apparatus for carrying out moisture tests on cotton. The Sub-Committee considered the question of the cost of the two conditioning ovens and sanctioned a total sum of Rs. 3,300 for the purpose.

18. The Committee at its meeting held in August 1934, resolved to request the Government of India to resume the broadcasting of all commercial news connected with cotton in the mornings particularly through the Bombay Radio Station. The Government of India were accordingly addressed and at its meeting held in May last, the Sub-Committee considered a letter from the President intimating the conditions on which the Government of India proposed to revive the morning broadcast of cotton prices. A sum of Rs. 5,000 or the cost of purchase and installation of 12 receivers, whichever was less, was sanctioned to be placed at the disposal of the Controller of Broadcasting. At a subsequent meeting, the Sub-Committee was informed by the Government of India that they had decided to resume these broadcasts, as an experimental measure, for six months with effect from the 15th November 1937 or such other date as may be approved by the Vice-Chairman of the Imperial Council of Agricultural Research subject to certain conditions. This subject is dealt with separately on the agenda of the Committee.

19. Owing to considerable increase of work in the Accounts Section of the Secretary's office, the Sub-Committee sanctioned the creation of an additional post of Upper Division Clerk in the revised scale of pay of Rs. 100-5-150.

20. The Sub-Committee granted permission to Mr. P. H. Rama Reddi to serve as a member of the Board of Examiners of the Madras University for the degree of Ph.D. and to accept an honorarium of Rs. 150. The Sub-Committee also approved of Mr. Rama Reddi's action in accepting the offer of the Bombay University to serve as one of the examiners for the B.Com. examination.

21. At its last meeting the Technological Research Sub-Committee, while considering the suggestion of the Bombay Millowners' Association for reducing the fees for tests undertaken at the Laboratory, decided that the subject be referred to a Special Sub-Committee consisting of Messrs. S. D. Saklatvala, Kasturbhai Lalbhai and the Director, Technological Laboratory. The Special Sub-Committee accordingly met on the 3rd May 1937 and made the following recommendations, which were approved by the Sub-Committee :—

" The Special Sub-Committee considered some of the fees somewhat high and recommended certain modifications in the existing scale. The modified scale together with the old scale are shown in the attached list. In this connection the Sub-Committee wishes to place on record the following points :—

(a) The Sub-Committee is in favour of reducing the fees for fibre and yarn tests on the ground that it would be in the interests of both the grower and the consumer that a large number of such tests are performed at the Laboratory. These tests, if performed in sufficiently large numbers, would also have the effect of reducing the malpractices.

(b) The Sub-Committee recommends that an Item 3 (c) should be inserted in the list for a spinning test on sliver to be supplied by a mill but the sliver to be combed at the Laboratory prior to spinning. It recommends a fee of Rs. 25 for such a test.

(c) The Sub-Committee recommends that where a mill requires that the comber waste of the cotton or the sliver supplied by it should be mixed with a particular cotton and spun into coarse counts, this may be done by charging an additional fee of Rs. 25 per sample, but that no mention of this test should be made in the scale of fees.

(d) The Sub-Committee recommends the reduction in the charges for the determination of wax content in cotton, yarn or cloth in order to popularise this test owing to the importance of wax in determining the quality of yarn or cloth prepared from a cotton or a mixing."

**SCALE OF FEES FOR TESTS CARRIED OUT AT THE
TECHNOLOGICAL LABORATORY.**

	Existing Scale. Rs. a.	Modified Scale. Rs. a.
(1) <i>Fibre or Yarn Test :</i>		
(a) Mean Fibre-length.	7 8	5 0
(b) Fibre-weight per inch	7 8	5 0
(c) Fibre-strength	10 0	7 8
(d) Lea Test	7 8	5 0
(e) Ballistic test	7 8	5 0
(f) Single Thread Test	7 8	5 0
(g) Twist	7 8	5 0
(2) <i>Fibre and Blow-Room Test :</i>		
(a) Fibre tests as for (a)-(c) above		
(b) Blow-room only	10 0	10 0
(3) <i>Full Test :</i>		
(a) Fibre tests as for (a)-(c) above		
(b) Spinning tests on cotton	35 0	35 0
(c) Spinning test on sliver after combing it		25 0
(d) Spinning test on combed cotton	50 0	45 0
(e) Tests in addition to the ordinary 3-roller system	10 0 per system.	5 0 per system.
(4) <i>VARIETY OF COTTON (BROAD CLASSIFICA- TION)</i>	25 0	25 0
(5) <i>IDENTIFICATION OF FIBRE</i> (Microscopic test)	15 0	15 0
(6) <i>PERCENTAGE OF SIZE</i>	7 8	5 0
(7) Do. GREASE	7 8	5 0
(8) Do. FREE ACID	15 0	10 0
(9) <i>PRESENCE OF MILDEW IN CLOTH</i>	7 8	5 0
(10) <i>CAUSES OF MILDEW GROWTH</i>	30 0	30 0
(11) <i>Percentage of Immature Fibres :</i>		
(a) in lint or kapas	10 0	7 8
(b) In yarn or cloth	15 0	10 0
(12) <i>Wax Content :</i>		
(a) 1st sample	12 8	7 8
(b) Each additional sample provided it is sent at the same time	7 8	5 0
(13) <i>DETERMINATION OF MECHANICAL INJURY TO FIBRE</i>	10 0	10 0
(14) <i>Cloth Samples :</i>		
(a) Actual counts	15 0	5 0
(b) Actual twist	20 0	10 0
(c) Single thread strength	20 0	10 0
(15) <i>Moisture Tests :</i>		
(a) 1st sample	5 0	5 0
(b) Each additional sample provided it is sent at the same time		2 8
(16) <i>SHIRLEY ANALYSER TESTS</i>	7 8	5 0
(17) <i>TESTS FOR ANALYSIS OF UNION FABRIC</i>	10 0	10 0

22. The Sub-Committee decided that for the year 1937-38 the rate of interest on advances to subscribers to the Committee's Provident Fund should be fixed at 4.5 per cent.

23. During discussion at the last meeting of the Committee on the proposals for the extension of the Sind Physiological Research Scheme for a period of three months from the 1st April to the 30th June 1937 at an estimated cost of Rs. 7,251 to be met from the savings under the scheme, Rai Saheb Thadani referring to the future arrangements for the continuation of the work requested that the apparatus and other materials belonging to the Committee might be retained by the Department at Sakrand. At the suggestion of the President, the Committee decided that Rai Saheb Thadani should put up concrete and official proposals for the loan of the apparatus required stating how he proposed to use them. The Sub-Committee considered a letter from the Director of Agriculture, Sind, together with a memorandum from the Secretary to Government, Revenue Department, Sind, intimating

that the Sind Government had not entertained his proposals for the financing of the Sind Physiological Research Scheme beyond June 1937 from provincial revenues as it constituted a new item of expenditure and that it was too late to include it in the list of new items of the current financial year. In the circumstances the Director of Agriculture requested that either the scheme may be extended by the Committee for a further period from the 1st July 1937 to the 31st March 1938 at an estimated cost of Rs. 3,070 to be met from the savings of the grant sanctioned for the scheme, or the laboratory with all the apparatus and dead stock belonging to the Committee be handed over to the Sind Agricultural Department on the assumption that the work would be continued from provincial funds from the next financial year. The Sub-Committee decided that the laboratory with all the apparatus and dead stock be handed over to the Sind Agricultural Department on condition that physiological work on cotton and other crops would be continued from provincial funds from the 1st April 1938. The Sub-Committee considered a further request from Mr. B. M. Dabral for the extension of the scheme to enable him to write up the report on the scheme, but it was not satisfied that the extension was really required and decided that Mr. Dabral should submit the report not later than the 31st August 1937. The Sub-Committee also decided that the question of allowing Mr. Dabral any emoluments after the expiry of the present sanctioned period of the scheme should be considered at a later date after the report on the scheme had been received by the Committee.

24. As a result of the recommendation of the Wider Markets Sub-Committee at its meeting in January 1936 and accepted by the full Committee "Guide to Indian Cottons," a joint publication of the Committee and the East India Cotton Association, was published and issued by the Committee in May 1937. About 950 copies of the publication have been distributed free in India, England and the Continent of Europe to those interested in cotton. The publication has been well received in India and already over 700 copies have been sold. The Sub-Committee considered enquiries regarding the publication of the Guide in Indian languages and decided that the publication should be translated into Marathi, Canarese and Gujarati and published at the cost of the Committee. The Sub-Committee also decided that enquiries should be made of the Director of Agriculture, United Provinces, and of the Director, Institute of Plant Industry, Indore, whether it was necessary to publish the Guide in Hindi also.

25. The Committee at its meeting held in August 1935 sanctioned the Scheme for the distribution and extension of Jayawant and Gadag No. 1 cotton seed in the Southern Division of the Bombay Presidency, which replaced the then existing five seed schemes in the same division, viz., Hubli, Gadag, Athani, Haveri and Bailhongal, for five years at a net additional cost of Rs. 1,78,000 provided the Bombay Government were willing to bear 25 per cent. of the above cost of the scheme. At its meeting in April 1936, the Sub-Committee accepted the offer of the Bombay Government to contribute 25 per cent. of the net cost of the scheme, viz., Rs. 8,900, for a period of one year only, i.e., up to the 31st May 1937, pending consideration by the Committee of the general principle governing the shares of local Governments of the cost of schemes financed by the Committee. The Special Sub-Committee appointed by the Committee to go into this question met on the 26th February 1937 and its recommendations, as modified and approved by the Committee at its last meeting, were forwarded to the Bombay Government. The Sub-Committee considered a letter from the Director of Agriculture, Bombay Presidency, intimating that the Bombay Government had agreed to contribute 25 per cent. of the net cost of the scheme for a further period of four years and sanctioned the continuance of the scheme for four years from the 1st June 1937 at 75 per cent. of the net cost of the scheme, the remaining 25 per cent. being borne by the Bombay Government.

26. In connection with the United Provinces Industrial and Agricultural Exhibition held at Lucknow in which the Committee participated, the Publicity Officer made two long halts there, the first being for 22½ days and the second for 35 days. In accordance with the travelling allowance rules of the Government of India which the Committee is required to follow, he was paid daily allowance for the first halt in full but for the second halt he was allowed daily allowance for 30 days. The Sub-Committee considered the request of the Publicity Officer for the grant of daily allowance for the full period of his second halt at the Exhibition and also for the grant of a higher rate of daily allowance for himself whilst on tours in connection with Exhibitions and decided that he should be paid daily allowance for the full period of his second halt at Lucknow but at the ordinary rate only.

27. The Sub-Committee considered a letter from Messrs. S. B. Billimoria & Co., the Committee's Auditors, regarding sanction to expenditure of a sum of Rs. 55 on taxi hire claimed by the Publicity Officer in addition to daily allowance for his stay at Lucknow in connection with the United Provinces Industrial and Agricultural Exhibition and decided that as this expenditure of Rs. 55 on taxi hire was irregular it could not be sanctioned.

28. Mr. Maya Prakash Singh was appointed from the 1st April 1937 on Rs. 150 per mensem as the Cotton Research Officer, Rangamati, on the Bengal Comilla Cotton Scheme. The Sub-Committee considered an application from him submitted through the Director of Agriculture, Bengal, requesting that he may be started on Rs. 170 in the scale of Rs. 150-16-190 on the following grounds :—

- (1) that the cost of living at Rangamati is very high,
- (2) that the place is unhealthy and is noted for its diseases, and
- (3) that all Government officials, there are paid a special hill allowance.

The Sub-Committee did not accede to the request for a higher starting pay.

29. Mr. H. K. Majumdar was appointed by the Bengal Government as Cotton Research Officer on the Bengal Comilla Cotton Scheme with effect from the 1st December 1934 and he worked on the scheme till the end of October 1936 when his services were dispensed with by the Director of Agriculture, Bengal, with a month's notice as from the 1st December 1936, as he was found guilty of gross irregularity in the accounts of the Committee's scheme. The Sub-Committee considered an appeal from Mr. Majumdar against his discharge and felt that as the proper procedure had not been followed by the Director of Agriculture in disposing of the case, it was unable to accept the findings and the charges made out against him. The Sub-Committee suggested that while the order of his discharge was set aside it was unnecessary to reinstate him in the post and his services should be considered as terminated.

30. Owing to indifferent health, the Secretary applied to the Government of India for leave on average pay for 25 days with effect from the 12th August 1937. The Sub-Committee considered the question and decided that as Mr. Rama Reddi would shortly be reverting to the Madras Government, the matter should be taken up with them.

31. The following two decisions have been arrived at by the Committee in the past in connection with the appointment of Government servants on the schemes of the Committee :—

- (1) Report of the Special Sub-Committee appointed to consider the question of merging the grants of the Committee in provincial revenues as adopted by the full Committee at its meeting held on 30th August 1933 :—

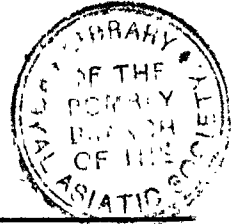
“ Uniform scales of pay for Committee servants in different provinces are not possible. The respective provincial grades should be accepted as the basis for the salaries to be offered to Committee's servants. Either a deputation allowance of 25 per cent. of pay or a promotion to the next higher grade, whichever is more suitable, may be granted in the case of Government servants deputed for service under the Committee.”

- (2) Report of the Agricultural Research Sub-Committee as adopted by the full Committee at its meeting held on 18th August 1936 :—

“ The Sub-Committee also recommends to the full Committee that in future, when departmental officers are employed on schemes, financed by the Central Cotton Committee, the grants made by the Committee should be limited solely to the out-of-pocket expenses of the Local Government, based upon the actual pay given to the substitute entertained in place of departmental officers employed temporarily on such schemes.”

The first decision was communicated to the local Governments and accepted by them. The second decision definitely restricts local Governments from charging to the Committee salaries in excess of their own out-of-pocket expenses. The Sub-Committee considered the above two decisions, which appear to be incompatible, and decided that no action was needed at present and that every case would be decided on its own merits.

32. The subject of the relations between the Secretary's Office and that of the Publicity Section has been fully considered and necessary steps have been taken to deal with the question.



Summary Proceedings
OF THE
Thirty-sixth Meeting
OF THE
Indian Central Cotton Committee,
Bombay,
HELD ON THE
25th and 26th January 1938.

[Price Re. 1.]

INDIAN CENTRAL COTTON COMMITTEE.

36TH MEETING—25TH AND 26TH JANUARY 1938.
(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

SUMMARY PROCEEDINGS

AGENDA.

	PAGE.
1. Presidential Address	5
2. Confirmation of Minutes	8
3. Retirement of members by rotation	8
4. Appointment of Vice-President and Sub-Committees	8
5. Proposal for holding a cold weather meeting of the Committee at Lyallpur	12
6. Half-yearly Report of the Publicity and Propaganda Officer	12
7. Establishment of regulated cotton markets in the Madras Presidency	13
8. Third Annual Report of the Lancashire Indian Cotton Committee—Letter from Secretary, Lancashire Indian Cotton Committee	13
9. Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments—Reference from last meeting	13
10. Post-mortem examination of cotton forecasts of 1936-37 season	15
11. Policy to be adopted in regard to new schemes for the propagation of long staple cotton in India—Reference from the last meeting	16
12. Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules framed by Sind Government	16
13. Report of the Cotton Forecast Improvement Sub-Committee	15
14. Summary of Proceedings of the Local Sub-Committee	16
15. Publicity and Propaganda—Resolution to be moved by Rao Bahadur Sir Madhaorao Deshpande	17
16. Periodical reviews of the state of foreign trade in Indian cotton	17
17. Report of the Wider Markets Sub-Committee	17
18. Technological Research—Scheme for research into the improvement of cotton ginning machinery and the use of cotton openers—Reference from last meeting of the Committee	19
19. Technological Research—Progress Report of the Director, Technological Laboratory	19
20. Technological Research—Report of the Technological Research Sub-Committee	19
21. Report of the Research Students Selection Sub-Committee	21
22. Progress Report on Punjab Physiological Scheme and proposals for additional grant	21
23. Growing of cotton in the United Provinces—Reply from the United Provinces Government	23
24. Expiry of period of contract of Publicity Officer	23
25. Final Report on Sind Physiological Scheme	24
26. United Provinces C. 402 Seed Distribution and Extension Scheme—Review of—Reference from last meeting of the Committee	24



27. <i>Seed Distribution and Extension Schemes</i> —Proposed extensions of:—	
(a) Khandesh (Jarila) Scheme—Proposals for allocation of expenditure between the Committee and the Bombay Government	24
(b) Madras Co. 2 Scheme	25
28. <i>Proposed New Research Schemes</i> :—	
(a) Scheme for investigation into Black-headed Cricket in Sind ..	25
(b) Scheme for research on the improvement of Punjab-American 289-F cotton	25
(c) Scheme for a cotton marketing survey in the Punjab ..	17
(d) Scheme for interspecific hybridisation in cottons at Surat ..	25
(e) Scheme for the investigation of <i>Heliothis obsoleta</i> as a pest of cotton in the Central Provinces and Berar	25
(f) United Provinces Botanical Scheme	25
29. <i>Proposed New Seed Distribution and Extension Schemes</i> :—	
(a) Scheme for financing seed distribution in Sind—Reference from last meeting of the Committee	26
(b) Scheme for maintenance of nucleus of pure seed in Madras Presidency	27
30. Institute of Plant Industry, Indore—Budget for 1938-39 and Programme of work	27
31. Report of the Agricultural Research Sub-Committee	37
32. Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936	27
33. Licensing of ginning and pressing factories—Letter from Director of Agriculture, Punjab	27
34. Restriction of number of commercial types of cotton in the Punjab—Letter from Director of Agriculture, Punjab	28
35. Application of Cotton Transport Act in the Punjab—Letter from Director of Agriculture, Punjab	29
36. Proposal for the better marketing of 1027 A. L. F. cotton of the Baroda State	29
37. Cotton Policy in Gujarat	29
38. Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to the marking of bales	31
39. Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee	32
40. Conference of workers on cotton growing problems—Letter from Secretary, Empire Cotton Growing Corporation	32
41. <i>Report of the Standing Finance Sub-Committee</i>	32
(a) Balance Sheet.	
(b) Financial Statement.	
(c) Revised Estimates, 1937-38.	
(d) Budget, 1938-39.	
(e) Auditors' Fees.	
42. Proposed scheme for a marketing survey of cotton	17
43. Disposal of Defibrating and Delinting machines installed in the British Cotton Growing Association Factory at Khanewal—Letter from the Director of Agriculture, Punjab	32
44. Question of balancing the Budget of the Committee—Reference from the Standing Finance Sub-Committee	33
45. Proposed award of training grant to Mr. H. A. Idnani for foreign study	21
46. Provincial Cotton Committees—Proceedings of the Sind Cotton Committee	33

	PAGE.
47. Early morning broadcast of cotton prices	33
48. Indo-Japanese Trade Agreements, 1937 .. . ' .. .	33
49. Madras Herbaceum Scheme—Proposed extension of—.. .. .	33
50. Scheme for improvement of Mathio cotton, Amreli and Jagudan— Request for additional grant	33
51. Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces—Proposal for appointment of Senior Assistant for writing up fresh detailed report	34
52. Proposal for the appointment of a Special Sub-Committee to report as to what extent the results of research schemes of the Committee have benefited the cultivator—Letter from Mr. C. P. Parikh .. .	34
53. Proposal for enquiring into the activities and expenses of the Tech- nological Laboratory and the Institute of Plant Industry, Indore— Letter from Mr. C. P. Parikh	34
54. Need for a special mark to distinguish bales of cotton produced from pure seed distributed by the Committee—Letter from Mr. C. P. Parikh	35
55. Sale of Verum cotton bales effected during December 1937 .. .	36
56. Madras Pempheres and Physiological Scheme—Proposed extension of—	36
57. Present position of cotton	36
58. Possibility of increasing exports of Indian cotton to European countries—Note by the President	17
59. Wide parity between Broach and American cotton in 1936-37—Re- ference from Local Sub-Committee	37
60. Proposed extension of appointment of Technological Assistant, Sind ..	37
61. Reduction of handling charges on cotton—Reference from Local Sub-Committee	37
62. Policy of the Committee regarding apportionment of cost of schemes during their extension periods—Consideration of replies from Provincial Governments and States	37
Resolutions passed by the Committee	39

APPENDICES.

I. Cotton Ginning and Pressing Factories (Bombay Amend- ment) Act—Draft Rules framed by Sind Government— Secretary's note	46
II. Report of the Cotton Forecast Improvement Sub-Committee. . .	48
III. Summary of Proceedings of the Local Sub-Committee— Secretary's note	49
IV. Report of the Wider Markets Sub-Committee	51
V. Technological Research—Report of the Technological Re- search Sub-Committee	56
VI. Extract from the report of the Research Students Selection Sub-Committee	57
VII. Summary of the report of the Agricultural Research Sub- Committee	58
VIII. Summary of Proceedings of the Standing Finance Sub-Com- mittee	94
IX. Wide parity between Broach and American cotton in 1936-37 —Reference from Local Sub-Committee	97

Present:

Sir Bryce Burt, C.I.E., M.B.E., I.A.S. (*President*),
 Sir Purshotamdas Thakurdas, C.I.E., M.B.E. (*Vice-President*),
 Dr. W. Burns, D.Sc., I.A.S.,
 Mr. P. H. Rama Reddi, I.A.S.,
 Mr. W. J. Jenkins, I.A.S.,
 Mr. P. B. Richards, I.A.S.,
 Mr. H. R. Stewart, I.A.S.,
 Mr. J. C. McDougall, I.A.S.,
 Mr. S. D. Saklatvala, M.L.A.,
 Mr. M. S. Durutti,
 Mr. Chandulal P. Parikh, M.L.A.,
 Mr. Kasturbhai Lalbhai,
 Mr. J. Vonesch,
 Mr. W. Roberts, C.I.E.,
 Mr. P. V. Deshmukh,
 Mr. D. K. Kane,
 Mr. Balak Ram,
 Sir Chunilal V. Mehta, K.C.S.I.,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Rao Bahadur C. S. Shirahatti,
 Khan Bahadur Shah Nazar Husain,
 Sardar Sahib Gurbachan Singh, M.L.A.,
 Mian Nurullah, M.L.A.,
 Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
 Mr. M. P. Kolhe,
 Mr. Nizam-ud Din Hyder,
 Mr. R. G. Allan, C.I.E.,
 Mr. G. K. Lele,
 Mr. T. R. Low, I.A.S.,
 Dr. V. K. Badami,
 Mr. V. Ramanatha Ayyar,
 Rai Bahadur S. V. Kanungo,
 Rao Saheb K. I. Thadani,
 Dr. B. L. Sethi,
 Mr. Sayed Miran Mohammad Shah, M.A.C.,
 Mr. Roger Thomas,
 Lala Shri Ram,
 Mr. Chellaram Shewaram,
 Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
 Mr. H. B. Rajdev,
 The Secretary (Mr. D. N. Mahta),

The Director, Technological Laboratory (Dr. Nazir Ahmad),
 The Publicity Officer (Mr. R. D. Mihra) and
 The Assistant Secretary (Mr. C. J. Bocarro),

By invitation.

The Hon'ble Mr. Morarji R. Desai, Minister for Revenue and Agriculture, Government of Bombay,
 Dr. T. E. G. Gregory, Economic Adviser to the Government of India,
 Mr. A. M. Livingstone, Agricultural Marketing Adviser to the Government of India,
 Mr. P. S. Rau, I.C.S., Director of Land Records, Central Provinces and Berar,
 Mr. E. F. G. Gilmore, Director, Industrial Research Bureau, Indian Stores Department,
 Mr. Mazhar Husain, Director of Statistics, H. E. H. the Nizam's Government,
 Mr. J. N. Gosh, Deputy Director of Statistics, Department of Commercial Intelligence and Statistics,
 Mr. Jamnadas Ramdas, C/o Messrs. Dossa & Co., 397, Marwari Bazar, Bombay,
 Mr. R. G. Saraiya, C/o Messrs. Narandas Rajaram & Co., Bombay,
 Mr. T. B. Dalal, Secretary, Karachi Cotton Association, Ltd., Karachi,
 Mr. K. Ramiah, Geneticist & Botanist, Institute of Plant Industry, Indore,
 Prof. R. H. Dastur, Plant Physiologist, Lyallpur,
 Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,
 Mr. G. R. Ambekar, Provincial Officer-in-charge, Bombay Cotton Forecast Improvement Scheme.

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

Mr. J. Tinker,
 Mr. J. Nuttall,
 Mr. Akhil Bandhu Guha,
 Rai Bahadur Lala Anand Sarup,
 Rao Bahadur S. S. Salimath.

President's Speech.

GENTLEMEN,

It is my privilege to-day to open the 36th meeting of the Indian Central Cotton Committee and to extend on your behalf a cordial welcome to several visitors and to our new members. We have with us to-day Mr. Gregory, Economic Adviser to the Government of India, who has recently arrived in this country but who is known to many of us as an economist of international reputation. We are glad to see him amongst us and trust that the contacts which he will establish will be of mutual advantage. Mr. Livingstone, Marketing Adviser to the Government of India, has kindly come at our invitation to assist us in the discussion of several matters connected with cotton marketing.

There have been a few changes in the membership of the Committee since the last meeting. Mr. Coleridge has recently retired from India and in consequence severed his connection with the Committee of which he was an active and valued member for several years. You will, I am sure, wish me to take this opportunity of expressing our appreciation of his work on this Committee and on our Finance and Local Sub-Committees. We shall miss him in our deliberations and we wish him all success in his future activities. We all congratulate Diwan Bahadur Ananda Rao on the distinction conferred on him in the New Year Honours' List. He has only just left the Committee on retirement from the Indian Agricultural Service. His place as Director of Agriculture, Madras, and on the Committee has been filled by Mr. Rama Reddi whom we greet to-day in a new capacity. Mr. Rama Reddi's place as Secretary of the Committee has been taken by Mr. Mahta, for several years Economic Botanist to Government, Central Provinces, and an active member of our Agricultural Research Sub-Committee. We give him a most cordial welcome.

Turning to our Agenda, this being our budget session, we are more occupied with the administrative details of research schemes, and with new proposals than with technical programmes and progress reports, the majority of which are discussed at our monsoon meetings. The Agricultural Research Sub-Committee, however, has had two busy days and has put up a good deal of material for our consideration.

The progress report of the Director of the Technological Laboratory and the report of the corresponding Sub-Committee show that the Laboratory has continued to do work of considerable importance both to cotton growers and the cotton trade in all parts of India. It is in many ways a unique institution, which serves all agricultural departments, and does much to lighten the task of the cotton breeder and speed up the introduction of improved cottons into general cultivation. It has been of material assistance to the Committee and to the East India Cotton Association in dealing with the question of moisture in cotton. It has also carried out a number of tests on cottons and yarns for various associations and individual mills—the last on payment. We are indebted to those additional representatives of the Bombay Millowners' Association, the Ahmedabad Millowners' Association, the East India Cotton Association and Karachi Cotton Association, who have served on this Sub-Committee and assisted us so materially. You will find in your papers a reference to the steps taken recently to improve the liaison between the Laboratory and the mills. Of particular interest is the report of a Conference between technical representatives, nominated by the millowners' associations, and the Director to discuss a number of points connected with the Laboratory's work. We shall now consider how this Conference can be made more representative.

The complicated question of cotton-growing policy in Gujarat once again came up at our last meeting when we decided to refer the matter to the Local Sub-Committee. The subject has been carefully examined by the Sub-Committee and I will not anticipate their report since we hope that the Hon'ble Minister for Agriculture of the Bombay Government will be with us to-morrow. I would, however, say this. The present reputation of the Surat cottons is in large measure dependent on the maintenance, in a state of purity, of the 1027 A. L. F. variety to which

both the Provincial Agricultural Department and this Committee have devoted much effort and a good deal of money.

The Indian Central Cotton Committee at its last meeting approved generally of the suggestion of the Agricultural Research Sub-Committee that a scheme for a marketing survey of cotton should be undertaken by the Committee and at our request Mr. Livingstone, Agricultural Marketing Adviser to the Government of India, has kindly drawn up a comprehensive scheme for our consideration. A Sub-Committee has considered this scheme and its recommendation that it should be referred to commercial bodies for opinion is now before us. Two smaller marketing schemes have been examined in Sub-Committee and recommended for grants.

At our meeting in March last we considered representations made by the cotton trade in Bombay regarding the hardships experienced by it from the application of Section 14 of the Cotton Ginning and Pressing Factories Act of 1925, repeal of which was urged on the ground that merchants dealing in forward contracts were penalised for the negligence or errors of pressing factory owners who themselves escaped without penalty or liability. As Section 14 of the Act gives the right to any purchaser to stipulate that only bales marked in accordance with the Act shall be supplied in fulfilment of a contract, it constitutes the real sanction of the Act and we did not consider the repeal of the Section feasible. It was recognised, however, that the difficulties of the trade were real and that steps should be taken to overcome them. After informal consultations the Local Sub-Committee has now proposed to the Government of India that an amendment of Section 14 of the Act, combined with an amendment of the bye-laws of the East India Cotton Association which this would render possible, should meet the situation.

One subject on the Agenda of more than ordinary interest is the change in the time, from 1 p.m. to 10-30 a.m. of the broadcast of cotton prices. This change has been made by the Government of India as a result of our representations and its object is to enable cotton prices to be broadcasted in certain cotton markets for the benefit of growers using those markets. Arrangements for the installation of suitable receiving sets have been made with the Controller of Broadcasting, the names of suitable cotton markets where receivers should be installed, have been communicated to the Government of India in accordance with the recommendations of your Standing Finance Sub-Committee and it is hoped that the experimental scheme will shortly be in operation.

The Local Sub-Committee's examination of the question of the wide parity between Broach and American cotton during 1936-37 has resulted in a well-reasoned exposition of the matter by the East India Cotton Association which will be of much help to us.

Several new agricultural and seed distribution schemes will come up for your consideration and it will immediately be apparent that in spite of all that has been done, and is being done, to solve the many cotton problems of the country, much work still lies ahead of us. New problems are constantly springing up which will demand our attention so long as cotton dominates the agricultural and industrial life of a large portion of this country. I should like to make a reference to the readiness

and generosity with which the Empire Cotton Growing Corporation gave us the services of their Physiologist, Dr. Mason, F. R. S., in connection with our investigations into the causes of the periodical partial failures of Punjab-American cotton in certain years—failures which meant diminished yields and poor quality cotton. As many of you are aware, Dr. Mason spent four months at Lyallpur working on this problem with Professor Dastur at a very trying time of the year. His report contains definite and helpful conclusions and indicates several promising lines of future work. At a later stage of our proceedings we shall have before us a resolution, proposed by the Agricultural Research Sub-Committee, conveying our appreciation and thanks to the Empire Cotton Growing Corporation.

Though we have a formidable agenda our task has been considerably lightened by the examination of many subjects by the various Sub-Committees which met during the last few days. Both on your behalf and my own, I wish to acknowledge our indebtedness to the members of these Sub-Committees and to the Finance and Local Sub-Committees, who have dealt so ably with our day to day administration and with many urgent matters. Gentlemen, I will not detain you longer from the work before us.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting were confirmed.

SUBJECT 3.—*Retirement of members by rotation.*

The Secretary's note giving the list of members due to retire on completion of their three-year term of membership, was recorded.

SUBJECT 4.—*Appointment of Vice-President and Sub-Committees.*

Sir Chunilal V. Mehta was elected Vice-President for the year 1938-39.

The Committee placed on record its great appreciation of the work of Sir Purshotamdas Thakurdas as Vice-President of the Committee over a period of five years.

The following Sub-Committees for 1938-39 were then re-constituted :—

Standing Finance Sub-Committee.

The President (*ex-officio*),
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Kasturbhai Lalbhai,
 Mr. M. S. Durutti,
 Rao Bahadur Sir Madhaorao Deshpande, and
 Mr. W. J. Jenkins.

Cotton Ginning and Pressing Factories Sub-Committee.

The Vice-President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. M. S. Durutti,
 Mr. J. Vonesch,
 Mr. Kasturbhai Lalbhai,
 Mr. J. Nuttall,
 Mr. W. Roberts,
 Mr. J. Tinker,
 Mr. P. V. Deshmukh,
 The Co-operative Banking Representative (*ex-officio*),
 Mr. W. J. Jenkins,
 Mr. Chellaram Shewaram, and
 Mr. Balak Ram.

Local Sub-Committee.

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. J. Vonesch,
 Mr. M. S. Durutti,
 Mr. Kasturbhai Lalbhai,
 Mr. Chandulal P. Parikh,
 Rao Bahadur Sir Madhaorao Deshpande,
 Mr. W. J. Jenkins, and
 (One vacant.)

Agricultural Research Sub-Committee.

- I. The President (*ex-officio*),
- II. The Vice-President (*ex-officio*),
- III. The Co-operative Banking Representative (*ex-officio*),
- IV. Cotton Growers' Representatives :—Sardar Sahib Gurbachan Singh,
 Mr. Roger Thomas,
 Mr. W. Roberts,
 Rao Bahadur Sir Madhao-
 rao Deshpande.
- V. Cotton Trade Representatives :—Mr. Kasturbhai Lalbhai,
 Mr. D. K. Kane,
 Mr. Chandulal P. Parikh,
 Sir Purshotamdas Thakurdas.

VI. *Agricultural Officers :—*

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

The Director, Institute of Plant Industry, Indore (*ex-officio*),

Mr. H. R. Stewart,

Mr. V. Ramanatha Ayyar,

Mr. W. J. Jenkins,

Mr. R. G. Allan,

Rao Sahab K. I. Thadani,

Mr. P. H. Rama Reddi,

Mr. P. B. Richards,

Mr. J. C. McDougall,

Mr. Nizam-ud-Din Hyder,

Mr. G. K. Lele,

Dr. V. K. Badami.

VII. *Additional Members :—*

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. Chellaram Shewaram,

Mr. Mohammad Afzal,

Rai Sahab Kalidas Sawhney,

Mr. K. Ramiah,

Dr. B. L. Sethi, and

VIII. The Secretary.

Technological Research Sub-Committee.

The President (*ex-officio*),

The Vice-President,

Sir Purshotamdas Thakurdas,

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. S. D. Saklatvala,

Mr. M. S. Durutti,

Mr. W. J. Jenkins,

Mr. H. R. Stewart,

Mr. Chandulal P. Parikh,

Mr. P. V. Deshmukh,

Mr. Kasturbhai Lalbhai,

Mr. P. H. Rama Reddi,

Lala Shri Ram,

Mr. J. Tinker,

Mr. J. Vonesch,

Dr. Nazir Ahmad, and

Mr. E. F. G. Gilmore, Director, Industrial Research Bureau.

Additional Members :—

Two representatives each nominated by
 The Bombay Millowners' Association,
 The Ahmedabad Millowners' Association, and
 The East India Cotton Association, and
 One representative nominated by the Karachi Cotton Association, Ltd.

Research Students Selection Sub-Committee.

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Dr. W. Burns,
 Mr. P. B. Richards,
 Mr. H. R. Stewart,
 Mr. P. H. Rama Reddi,
 Mr. W. J. Jenkins,
 Mr. T. R. Low,
 Mr. J. C. McDougall,
 Rao Saheb K. I. Thadani,
 Mr. G. K. Lele,
 Mr. R. G. Allan,
 Mr. Nizam-ud-Din Hyder,
 Dr. V. K. Badami,
 Mr. Kasturbhai Lalbhai,
 Dr. Nazir Ahmad,
 Mr. K. Ramiah, and
 Seth Isserdas Varindmal.

Cotton Forecast Improvement Sub-Committee.

The President (*ex-officio*),
 The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 " " Punjab,
 " " Madras,
 " " United Provinces,
 " " Central " ,
 " " Sind,
 " " H. E. H. the Nizam's Government,
 The Commissioner of Agriculture, Baroda,
 The Director of Statistics, H. E. H. the Nizam's Government,

The Director of Land Records, Central Provinces and Berar,
 The Deputy Director of Statistics,
 The Statistical Officer to the Director of Industries, Madras, and
 Mr. J. Vonesch.

Wider Markets Sub-Committee.

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. H. R. Stewart,
 Mr. P. B. Richards,
 Dr. W. Burns,
 Mr. W. J. Jenkins,
 Rao Saheb K. I. Thadani,
 Mr. Nizam-ud-Din Hyder,
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Chandulal P. Parikh,
 Mr. P. V. Deshmukh,
 Mr. Balak Ram,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. P. H. Rama Reddi,
 Mr. J. C. McDougall,
 Mr. W. Roberts,
 Seth Isserdas Varindmal,
 Mr. Kasturbhai Lalbhai,
 Mr. Sayed Miran Mohammad Shah,
 Mr. M. S. Durutti,
 Dr. Nazir Ahmad, and
 Mr. R. G. Saraiya—Additional Member.

SUBJECT 5.—Proposal for holding a cold weather meeting of the Committee at Lyallpur.

In pursuance of a resolution passed by the Committee in March 1937 it was decided to hold the next cold weather meeting of the Committee at Lyallpur in the middle of November. It was also agreed that the next monsoon meeting should be held as early as possible in July in order to leave a reasonable gap between the next monsoon and cold weather meetings.

SUBJECT 6.—Half-yearly Report of the Publicity and Propaganda Officer.

The half-yearly report of the Publicity and Propaganda Officer was recorded.

SUBJECT 7.—*Establishment of regulated cotton markets in the Madras Presidency.*

It was noted with regret that the Tirupur cotton market was still the only regulated cotton market in the Madras Presidency. It had taken eleven years for that market to be established and it was still not known when even a second one would be added.

SUBJECT 8.—*Third Annual Report of the Lancashire Indian Cotton Committee—Letter from Secretary, Lancashire Indian Cotton Committee.*

In accordance with the decision arrived at at the last meeting of the Committee, the Lancashire Indian Cotton Committee had been asked to supply information as to what varieties of Indian cotton were used by Lancashire mills. As they were unable to collect the required information the matter was again placed before the Committee for opinion as to whether they still considered that such details were really necessary. The general opinion was that information of this kind would be useful if it could be obtained without much difficulty.

During the discussion, it was suggested that the Lancashire Indian Cotton Committee might be requested to say whether Indian cotton was used by itself or mixed with other varieties of cotton. The President in explaining the position said that the recent increase in consumption of Indian cotton in Lancashire was due to three causes. In the first place, Punjab-Americans and similar cottons had taken the place of American cotton in existing mixings. Secondly, some spinning mills were using a comparatively high percentage of Punjab and Sind American mixed with American. Thirdly, short staple Indian cottons had begun to be used increasingly for purposes other than those for which they were used before, largely as a result of the work of the Shirley Institute. Short staple Indian cotton was now also being used as a substitute for Egyptian cotton waste. Lastly, Indian cotton had found a new use in the manufacture of cotton sweaters and similar material. He hoped that the next report of the Lancashire Indian Cotton Committee would give further valuable information.

SUBJECT 9.—*Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments—Reference from last meeting.*

At the last meeting, the Committee considered a proposal that improved varieties of cotton grown under the immediate supervision of the Agricultural Departments should be sold direct to mills and not by auction. It was argued that at auctions the improved cotton, particularly Jayawant cotton in the Karnatak, was mostly purchased by middlemen for mixing with inferior cotton and passing off the mixture as genuine improved cotton, with the result that mills did not get pure cotton while the reputation of the improved type was also lowered. As the proposal did not find much favour it was decided that (1) the Director of Agriculture, Bombay, in consultation with Sir Chunilal V. Mehta, should put up a scheme so far as Bombay Presidency was concerned and (2) that the Cotton Millowners' Associations should be addressed to find out whether they could not set up a suitable organisation for financing the production of new and improved cottons to enable the mills to get the desired quantum of pure cotton direct. The latter suggestion, however, did not appeal to the Millowners' Associations.

Accordingly, the Director of Agriculture, Bombay, placed for consideration of the Committee certain proposals for maintaining the purity of Jayawant cotton in the Karnatak, where the practice of mixing was rampant. Discussion centred round three points, viz :—(1) the enforcement of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, in the Karnatak, (2) Government supervision of ginning and pressing of Jayawant cotton sold in auction sales, and (3) the application of the Cotton Control Act to areas in the Karnatak where “New Cross” cotton was spreading.

In regard to the first point it was suggested that the portion of the Act pertaining to mixing might with advantage be tried in the area where the inferior “New Cross” cotton was spreading. The difficulty in giving effect to the second point lay in the cost involved. As regards the third suggestion, the view was expressed that it would be premature to apply drastic measures as “New Cross” cotton was being gradually given up by the cultivators on account of its susceptibility to wilt.

It was pointed out that as a result of enforcement by the Central Provinces Government of the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act during the current season, cotton coming from the Central Provinces and Berar was now much sought after and that, therefore, the Bombay Government should be urged to follow the good example of the Central Provinces Government by applying the Act to the Presidency right from the beginning of the next season.

It was accordingly agreed that the Bombay Government should be asked to speed up the introduction of rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act from the beginning of the next cotton season.

As regards Government supervision of ginning and pressing of Jayawant cotton sold in auction sales, a proposal was made that bales of such pure cotton should be marked with a special stencil mark and that the extra-expenditure involved on this account should be borne by the Committee. Great importance was attached to this proposal of marking bales of pure cotton, but it was pointed out that legislative protection would be necessary to prevent the misuse of the stencils. It was suggested, however, that the Agricultural Produce (Grading and Marking) Act could be utilized for this purpose if cotton was included in the schedule under the Act.

The view was expressed that the Cotton Ginning and Pressing Factories Act was a sufficient safeguard against mixing and that the Committee should not spend any money on the marking of bales. Against this, however, it was suggested that if by protecting the purity of a cotton, the farmer got better value for his produce there was no reason why a small charge should not be made on the grower at the time of auction of *kapas*.

It was pointed out that if cotton was to be marketed pure and with a guarantee, a small expense, compared with the total bulk of the crop involved, was justified. The proposal relating to Jayawant cotton was intended to see whether legislation was going to be effective or not.

After some discussion the Committee agreed that legislative protection for the marks was necessary and that once this was obtained, the experiment of marking bales could be tried in limited areas. It was also decided that the Director of Agriculture, Bombay, should be authorised to put up specific proposals at the next meeting on the question of marketing Jayawant cotton in the Karnatak.

SUBJECT 10.—*Post-mortem examination of cotton forecasts of 1936-37 season.*

SUBJECT 13.—*Report* of the Cotton Forecast Improvement Sub-Committee.*

The examination of the data collected by the Committee regarding the village consumption of cotton in India gave a much lower figure than the conventional estimate of 750,000 bales hitherto assumed for the purpose of reconciling the estimate of forecasted production with the actual crop arrived at from trade returns. In examining the accuracy of the forecasts two separate checks were applied. The examination relating to the 1936-37 crop showed that the forecast was an underestimate by a million bales even after taking the revised figure of 443,000 bales of cotton for extra-factory or village consumption. The Cotton Forecast Improvement Sub-Committee examined the distribution of the error among the various Provinces and States. There was a big difference in the Punjab, but the position was likely to improve as the Provincial Government were introducing revised standard yield figures for cotton from 1938-39, a very careful examination having shown that the present standard yield figures were too low. It was also pointed out that in Bombay with the help of a grant from the Committee the problem of cotton forecasts was being thoroughly examined and already revised standard yield figures had been formulated which would be applied to the forecasts of 1937-38.

Reference was made to the recommendation of the Cotton Forecast Improvement Sub-Committee for a grant of Rs. 1,500 to the Punjab Agricultural Department for a statistical examination of the available data with a view to fixing new standard yield figures for the different districts in the Punjab. It was explained that Government published quinquennially a statement showing the standard yields for the various principal crops. In the case of cotton in the Punjab separate figures were given for irrigated and unirrigated cotton and for *desi* and American cotton. The report for the quinquennium ending 1936-37 was due to be issued shortly and the data were ready for all crops other than cotton. For cotton a check on forecasted production was possible through the pressing returns. A very close examination of the data of the last ten years had revealed that while the last quinquennial average standard yield for cotton in the Punjab was equivalent to 4.62 mds. of *kapas* per acre, the actual average output during the quinquennium ending 1936-37, based on the figures of cotton pressed, was 2 mds. of *kapas* more per acre than that figure. If village consumption were taken into account the actual output per acre would be further raised by a maund of *kapas*. From the data regarding cotton pressed there would be no difficulty in laying down the provincial standard yield but difficulties arose when the corresponding district figures had to be fixed and those separately for irrigated and unirrigated cotton and for

* Appendix II (page 48).

desi and American cotton. The grant was required for engaging a Statistician to examine the mass of available data and to formulate the detailed standard yield figures.

The report of the Cotton Forecast Improvement Sub-Committee was adopted.

SUBJECT 11.—*Policy to be adopted in regard to new schemes for the propagation of long staple cotton in India—Reference from the last meeting.*

The consideration of the subject was postponed.

SUBJECT 12.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act*—Draft Rules framed by the Sind Government.*

It was observed that the Sind Rules were somewhat different from the Bombay Rules. The hope was expressed, however, that the Sind Legislature would not water down the rules further.

One member pointed out that the fee for the licenses under the Bombay Rules was Rs. 250 against Rs. 400 fixed for combined gins and presses under the Sind Rules. He thought that arrangements should be made for cotton to be tested at Karachi also for moisture content before the rules were passed. In reply it was suggested that the Sind Rules relating to license fees had perhaps been framed to suit local conditions. The idea of postponing the introduction of the Rules till a moisture testing house was set up at Karachi was opposed on the ground that sealed samples could easily be sent to the Technological Laboratory at Bombay for tests.

Regarding Rule 3 (1) (b) it was stated that factory owners were likely to be harassed since there was no method by which it could be ascertained whether short staple American found in mixtures of American above $\frac{7}{8}$ " had been deliberately put into a bale or whether it was from the plant itself. It was therefore urged that rule 3 (1) (b) should not be put into operation until further experience had been gained.

This was opposed on the ground that the grower could easily distinguish between the fuzzy seed of *Sind Sudhar* and the naked seed of 4F. *Sind Sudhar* would be wiped out of the market if the Rule in question was left out. The Rules would be administered with latitude and amendments made as experience was gained.

After some discussion the Committee agreed (1) that the summary of the discussion on the subject should be sent to the Sind Government, (2) that the sooner the Act was put into operation the better and that the rules should be put into a form that would enable this to be done as soon as possible, (3) that the mixing of *Sind Sudhar* with other varieties of American types should be stopped, (4) that no difficulty was expected in detecting high percentages of mixtures, as particularly all commercial cotton contained a certain amount of seed which would show very clearly whether it was 4F or *Sind Sudhar*, and (5) that the actual drafting of the rules was best left to the Sind Government.

SUBJECT 14.—*Summary of proceedings of the Local Sub-Committee.*

The report† of the Local Sub-Committee was recorded.

* Appendix I (page 46).

† Appendix III (page 49).

SUBJECT 15.—*Publicity and Propaganda—Resolution to be moved by Rao Bahadur Sir Madhaorao Deshpande.*

The following resolution was moved by Sir Madhaorao Deshpande :—

“The Indian Central Cotton Committee recommends that the amount spent on the Publicity Section at Bombay should hereafter be distributed among the Provincial Governments for propaganda and publicity work through Agricultural Departments.”

In explaining the resolution it was pointed out that although the present Publicity Section had brought to the notice of the cultivators the results of schemes financed by the Committee through leaflets and other propaganda work, experience had shown that the Publicity Section had not been of any material advantage to the cotton growers. The Agricultural Department in each province carried on propaganda activities itself but the staff was not sufficient for the purpose. If the money spent by the Committee on the Publicity Department, viz., about Rs. 40,000 per annum, were given to the Agricultural Departments, it could be used more advantageously.

It was contested, however, that the resolution was a step in the wrong direction. The amount that each Province would get under this proposal would be too little to be of any use for effective publicity.

The resolution was put to vote and lost.

SUBJECT 16.—*Periodical reviews of the state of foreign trade in Indian Cotton.*

As a result of a scheme recently sanctioned by the Committee, the Director General of Commercial Intelligence and Statistics supplies the Committee with reviews of the state of foreign trade in Indian cotton. The first review was considered by the Wider Markets Sub-Committee and was found to contain very useful information particularly regarding imports into foreign countries. The Sub-Committee recommended that subject to the approval of the Director General of Commercial Intelligence and Statistics, the reviews should be circulated among cotton trade associations.

The report of the Wider Markets Sub-Committee was adopted.

SUBJECT 17.—*Report * of the Wider Markets Sub-Committee.*

SUBJECT 28.—*Proposed New Research Schemes :—*

(c) *Scheme for a cotton marketing survey in the Punjab.*

SUBJECT 42.—*Proposed Scheme for a marketing survey of cotton.*

SUBJECT 58.—*Possibility of increasing exports of Indian cotton to European countries—Note by the President.*

SUBJECTS 28 (c) and 42 :—

It was observed that the scheme under subject 28 (c) related to the Punjab. Its cost was estimated at Rs. 6,719 spread over a period of 15 months. The bigger scheme proposed in item 42 which was an all-India marketing survey of cotton, involved a much longer period and its cost was estimated at Rs. 2,30,700.

The Wider Markets Sub-Committee had recommended that the Punjab scheme be sanctioned and that the all-India scheme be referred to commercial bodies for opinion.

With regard to the second scheme it was urged that in view of the importance of the cotton crop to the country a detailed all-India survey was necessary. The survey involved a study of various commodities, *viz.*, *kapas*, lint, pressed cotton, cotton seed and cake. Although the Punjab scheme was good in itself, its scope was limited because big mill-centres and the terminal markets for the Punjab, *viz.*, Karachi and Bombay were outside the Province. The expenditure on the Punjab survey naturally could not be taken as a guide to a comprehensive all-India scheme.

It was pointed out that at the last meeting the Committee had expressed itself as being in favour of a comprehensive all-India cotton marketing survey and, therefore, Mr. Livingstone had prepared the scheme on the lines of the surveys on wheat, rice and linseed, etc. Such surveys were necessarily expensive because a great deal of ground had to be covered. The most important point was that if the Committee decided to undertake an all-India marketing survey for cotton, it must be well done.

The report of the Wider Markets Sub-Committee was adopted.

SUBJECT 58 :—

The note on this subject was put up as the result of an undertaking given by the President some time ago to obtain information from the Government of India regarding the position of exports of Indian cotton to Europe. The note traced the course of India's cotton trade with European countries from 1932-33 to 1936-37 and the progress made in the development of substitutes for raw cotton in Germany and Italy. As regards barter arrangements, clearing and trade agreements and the like, reference was made to the series of press *communiqués* issued by the Government of India in 1936 as a result of a special and continuous study of the general question of commercial and economic policy affecting India's trade. It was pointed out that questions connected with India's export trade in cotton were being continuously studied.

A suggestion was made that it might be worthwhile bringing to the notice of the public how the export of Indian cotton to European countries during the last five years had expanded compared with the export to the United Kingdom because the general belief was that while the United Kingdom had taken considerably large quantities of Indian cotton, exports to other European countries had not expanded in the same ratio.

In reply it was stated that the public were well aware of the position ; while the total exports to all European countries other than the United Kingdom, had increased from 826,000 bales in 1933-34 to 997,000 bales in 1936-37, exports to the United Kingdom had risen from 200,000 to 600,000 bales during the same period.

It was urged that the information as given in the note should be brought to the notice of the general public. This was agreed to.

SUBJECT 17 :—

The full report of the Wider Markets Sub-Committee was adopted.

SUBJECT 18.—*Technological Research—Scheme for research into the improvement of cotton ginning machinery and the use of cotton openers—Reference from last meeting of the Committee.*

SUBJECT 19.—*Technological Research—Progress Report of the Director, Technological Laboratory.*

SUBJECT 20.—*Technological Research—*Report of the Technological Research Sub-Committee.*

The progress report of the Director, Technological Laboratory, was approved.

The scheme for research into the improvement of cotton ginning machinery and the use of cotton openers, which involved a cost of Rs. 82,000 had been considered by the Technological Research Sub-Committee. The experiments under the scheme were proposed to be carried out at the British Cotton Growing Association's factory at Khanewal. The Sub-Committee had appointed a small Sub-Committee to draw up an alternative scheme for investigation of the problem at the Technological Laboratory.

It was urged that as the problem of cleaning *kapas* was very important in Sind as well as in the Punjab, the experiments should be carried out in both these Provinces preferably in a Government or private ginnery.

This was, however, opposed on the ground that the object of the scheme was to find out a gin which would be best suited to all Indian cottons. A research of this nature could be carried out successfully only by mechanists in consultation with practical ginners. It was for this reason that the Sub-Committee had decided that such experiments should be undertaken at the Technological Laboratory, which had all the necessary facilities. The Special Sub-Committee appointed would examine the problem fully and put up proposals showing how it could best be tackled at minimum cost.

A suggestion was made that in the investigation prominence should be given to openers in particular, as this was probably the biggest problem for growers and ginners.

The report of the Technological Research Sub-Committee was adopted.

The President drew attention to the proposal to include a further sum of Rs. 11,000 in the Technological Laboratory budget for experiments on the manufacture of artificial silk from linters, cotton waste and short staple cotton. This sum would restore the balance of the available grant for the investigation to Rs. 30,000. The proposal was that a pilot plant should be installed to find out the exact price at which chemical cotton could be produced in India.

It was observed that, whether the viscose or the acetate process was adopted finally, in India, for the production of artificial silk, one of the

constituents required was cotton linters. In the viscose process the world in general was using 70 per cent. of wood pulp and 30 per cent. of chemical cotton from linters. The U. S. A. had specialised in the production of chemical cotton from linters. In the case of the acetate process all manufacturers were using 100 per cent. chemical cotton. For the acetate process, the raw materials required for the manufacture of artificial silk were available in plenty in India.

Some members held that if the sum of Rs. 30,000 should be found to be insufficient it should be supplemented by additional grants. In view of conflict in the Far East and its possible effect on the common well-being of the cotton grower, the opinion was expressed that the Committee would be wise to divert its efforts towards finding other uses for cotton, cotton waste and linters available in the country.

In reply to the contention that as the methods of production of artificial silk were well-established and widely known, there was no necessity to install a pilot plant for the manufacture of rayon, it was pointed out that experiments right up to the spinning and finishing stage were desirable, as certain items such as the recovery of acetone and bisulphide under the climatic conditions prevailing in this country, required to be investigated before the costs could be worked out with any degree of accuracy. Further, the question of difference in the quality and lustre of rayon produced from wood pulp and cotton and their effect on prices required to be investigated.

It was argued that the question at issue was whether the required raw materials were available in this country at a reasonable price. As regards the use of short staple cotton for the manufacture of artificial silk, the interim reports of the Director, Industrial Research Bureau, indicated that unless cotton could be had at or about Rs. 70 a candy the scheme was not likely to succeed.

The President pointed out that the report of the Director, Industrial Research Bureau, showed that, from the point of view of cost no hope could be entertained regarding the manufacture of artificial silk from short staple cotton and that consideration would have to be given to the use of linters for this purpose. There was a large area under long staple cotton, which was being saw-ginned to an increasing extent and if the linters could be recovered and used, it would be a paying proposition. In the belief that linters would be used the Sub-Committee had recommended the expenditure.

Reference was made by a member to the fact that the scheme was originally started with a view to find use for short staple cotton, which was at times a drag on the market, particularly when Japan did not take it. As it was stated that linters would have to be used, it was necessary first to see that linters were available in sufficient quantities to render the production of artificial silk economical. He felt that unless cotton or linters were used for the experiment, the Committee was precluded from undertaking the work, as its activities were confined to cotton.

In reply it was pointed out that the position of India was different from that of other countries, as for instance acetic acid could be had in India at a much lower price. The Committee had to consider the question of the use of cotton waste, and other by-products of cotton.

The President remarked that the annual production of linters in the Punjab had been roughly estimated at 60,000 bales. The Sub-Committee had therefore recommended that it was worthwhile putting up a plant to determine the cost of producing chemical cotton from linters and, at the same time, to find out if short staple cotton could be utilised and at what cost.

The proposal for an additional allotment of Rs. 11,000 for installing a pilot plant to determine the cost of production of chemical cotton was approved.

It was urged that a complete plant for the production of chemical cotton as well as rayon should be erected. The Committee, however, thought that the actual manufacture of rayon was a matter for the Industrial Research Bureau to decide and that, on principle, the Committee should limit itself to the essential factor only, *viz.*, the cost of production of chemical cotton.

A cut motion for reducing the grant of the Technological Laboratory by Rs. 20,000 under the items "Superintendence, charges for publication and printing, Research and Testing Laboratories and Senior Research Assistants" was then moved. It was put to vote and declared lost.

The report of the Technological Research Sub-Committee was adopted.

SUBJECT 21.—**Report of the Research Students Selection Sub-Committee.*

SUBJECT 45.—*Proposed award of training grant to Mr. H. A. Idnani for foreign study.*

(The above two subjects were considered together.)

The following resolution was carried :—

RESOLUTION.—"That the report of the Research Students Selection Sub-Committee be adopted."

SUBJECT 22.—*Progress Report on Punjab Physiological Scheme and proposals for additional grant.*

Dr. Burns said that one of the recommendations of the Special committee which examined the scheme in March 1937 was that an attempt should be made to reproduce artificially the disease of the failure of American cotton. This Prof. Dastur had been able to do in the past year, (1) by rendering the sub-soil alkaline through the addition of alkali salts like sodium carbonate and sodium chloride, and (2) by water starvation. Another important point was the visit of Dr. Mason, Fellow of the Royal Society, who spent about 3½ months at Lyallpur and made a number of recommendations in one of the shortest and most easily understandable reports on record. Dr. Mason's conclusion was that the cotton failure in the Punjab was due to two kinds of bad opening of the bolls, (1) classed as nutritional bad opening which was common in other countries as well. In this type of bad opening the seed was hard, *i.e.*, there was an embryo in it; (2) a second other type of bad opening, which was peculiar to the Punjab, the seed being hollow, *i.e.*, the embryo had aborted and had not developed. Dr. Mason, from his observations and those of Prof. Dastur came to the conclusion that there was strong

evidence to show that cotton failure was due to alkali poisoning of the plant, probably due to sodium carbonate, enhanced by unfavourable climatic conditions. If these indications were substantiated in the following two or three years' work, then the way to a cure would be clear. The cure was partly indicated by an observation of Dr. Mason that, while Sudan soils contained about 60 per cent. of clay, Punjab soils contained only 15 per cent. Clay would act as a buffer and would tend to render the alkali harmless. Organic matter (humus) would, to an even greater extent, bring about the same effect. It was possible for that reason that sandy soils in the Punjab were especially liable to *Tirak*. He considered that a good deal had been done to overhaul the scheme to chalk out the future lines of work. Referring to Dr. Mason's recommendations for an expenditure of about Rs. 10,000 for apparatus to follow up the question of soil study, he said that the Agricultural Research Sub-Committee had endorsed it with the proviso that the soil side of the work should be put under Dr. Lander. He commended the report of the Sub-Committee for acceptance.

The phenomenon of the disintegration of the chloroplasts in the leaves, which gave an important indication as to whether the plant would give the symptoms of a failure, was described by Mr. Roger Thomas as being an important piece of work done by the physiologist. It was pointed out by him that, according to the report, failure might occur on very sandy soil, on alkaline soil and under drought conditions, and disintegration of chloroplasts appeared to be associated with these adverse environmental conditions. He had reasons for believing that the breakdown of the chloroplasts was also associated with White Fly attack irrespective of other environmental conditions. It was suggested that this aspect should be investigated.

In reply it was stated by the Director of Agriculture, Punjab, that while the Department realised that White Fly had done and could do a great deal of damage to the cotton plant, it was also equally satisfied that White Fly was not responsible for the failures.

The President said that everybody agreed that White Fly did cause damage to cotton. The investigation had been completed and it was a question of giving practical effect to the results obtained. As far as the scheme under consideration was concerned, it might be left to the Director of Agriculture, Punjab, to work out the technical programme.

The Report of the Agricultural Research Sub-Committee was adopted.

The Vice-President then moved the following resolution :—

RESOLUTION.—"That the thanks of the Indian Central Cotton Committee be conveyed to the Empire Cotton Growing Corporation for their readiness and generosity in giving the services of Dr. T. G. Mason, F.R.S., to examine and report on the Physiological Research Work financed by the Committee in the Punjab."

Mr. Stewart, in seconding the resolution, said that it was a great comfort to technical members of the Committee that they were in a position to receive such very helpful and generous co-operation from a body like the Empire Cotton Growing Corporation and they were under a great debt of gratitude to them.

Similar appreciative remarks were made by other members and the resolution was carried with acclamation.

SUBJECT 23.—*Growing of Cotton in the United Provinces—Reply from the United Provinces Government.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 24.—*Expiry of period of contract of Publicity Officer.*

The following resolution of the Standing Finance Sub-Committee came up for consideration before the Committee :—

“The Sub-Committee feel that, as the Publicity Section costs nearly Rs. 3,000 a month, a cheaper method of publicity should be devised and examined by the Committee before the Publicity Officer is given any new contract. The Sub-Committee is further of the opinion that unless the policy of the Committee in respect of the schemes financed by it undergoes a substantial change it is doubtful if there would be enough work left for a special officer in charge of publicity and propaganda.”

It was explained that the object of the resolution was not to decry the work done by the Publicity Officer, but to point out that the expense ratio of the publicity section was disproportionately high and required to be brought down. While some kind of propaganda was required, the view of the Standing Finance Sub-Committee was that a small Sub-Committee should be appointed to examine the best way in which this could be carried out at a lower cost. The Sub-Committee would support a scheme which would cost a reasonable sum and still serve the same purpose. During the last six years, nearly two lakhs had been spent on propaganda which was proportionately too high.

Against this it was argued that an expenditure of Rs. 3,000 a month on propaganda was not too much against a total annual budget of Rs. 10 lakhs. The more money the Committee spent, the more efficient should be its publicity and propaganda section.

The President said that if the Committee accepted the resolution of the Standing Finance Sub-Committee it would be desirable to appoint a Special Sub-Committee to go into the question. The expenditure on publicity in the past had been over Rs. 35,000 per annum out of a budget of Rs. 10 lakhs. That was a point to be borne in mind. The Finance Sub-Committee's view was that they should not go on spending at the present rate.

The general opinion of the Committee was that the proposal to inquire into the question whether publicity could be carried on effectively with less money or whether with the same amount of money more work could be done, should be proceeded with and the following resolution was passed :—

RESOLUTION.—“That a Sub-Committee consisting of two Directors of Agriculture, two representatives of growers, and two members of the Standing Finance Sub-Committee with the Vice-President as Chairman, be appointed to report on what propaganda activities the Indian Central Cotton Committee should undertake for the next three years and what staff is necessary.”

The following members were appointed on the Special Sub-Committee :—

The Vice-President (Chairman, *ex-officio*),
 Mr. P. B. Richards,
 Mr. H. R. Stewart,
 Mr. M. P. Kolhe,
 Sardar Rao Bahadur Bhimbhai R. Naik,
 Sir Chunilal V. Mehta, and
 Mr. J. Vonesch.

It was suggested that the report of this Sub-Committee should be considered at the next monsoon meeting.

SUBJECT 25.—*Final Report on Sind Physiological Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 26.—*United Provinces C. 402 Seed Distribution and Extension Scheme—Review of—Reference from last meeting of the Committee.*

The views of the Agricultural Research Sub-Committee differed from those of the Local Government inasmuch as the Local Government wanted the scheme to continue for another year, whereas the Sub-Committee considered that there was not sufficient evidence that this particular variety was going to be a success to warrant further money being spent on it.

A plea for revising the findings of the Sub-Committee was put forward. The competition between a promising sugarcane crop and a dwindling return from cotton was stated to be the main reason for the decline in the area under this cotton and it was argued that, given normal season, and with sugarcane finding its economic level, there was scope for development of this type of cotton in the Hardoi district.

The Sub-Committee thought, however, that there was no objection to the Agricultural Department continuing the work on C. 402.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 27.—*Seed Distribution and Extension Schemes—Proposed extensions of.*

(a) *Khandesh (Jarila) Scheme—Proposals for allocation of expenditure between the Committee and the Bombay Government.*

The recommendation of the Agricultural Research Sub-Committee was that the scheme should be continued for a period of three months by which time the results of field trials and spinning performance of Jarila should become available. The Secretary pointed out, however, that the Government of Bombay had since communicated their assent to meet their share of expenditure. It was, therefore, suggested that the scheme might now be sanctioned for one year which would be cheaper for the Committee than meeting the full expenditure on the scheme for three months.

After some discussion it was agreed that the scheme should be sanctioned for one year on the condition that the data concerning the quality of the cotton, which should be reported to the Standing Finance Sub-Committee within three months, would be found to be satisfactory.

The Report of the Agricultural Research Sub-Committee was adopted with the above modification.

(b) *Madras Co. 2 Scheme.*

The Agricultural Research Sub-Committee was of the opinion that the scheme had now reached a stage when it should be self-supporting.

The Report of the Agricultural Research Sub-Committee was adopted.

The hope was expressed that the Madras Government would continue to maintain the purity of the seed.

SUBJECT 28.—*Proposed New Research Schemes :—*

(a) *Scheme for investigation into Black-headed Cricket in Sind.*

With regard to the recommendation of the Agricultural Research Sub-Committee that no work should be done on control measures pending the results of the first year's investigation, a suggestion was made that this proviso should be duly relaxed to enable the work being undertaken, should the pest assume serious proportions in the coming season. The suggestion was agreed to and the report of the Agricultural Research Sub-Committee, as amended, was adopted.

(b) *Scheme for research on the improvement of Punjab-American 289-F cotton.*

Emphasis was laid on three points which, it was suggested, should be kept in view in selecting superior strains from Punjab-American 289-F, viz., resistance to White Fly, high ginning percentage and good spinning qualities.

The Report of the Agricultural Research Sub-Committee was adopted.

(d) *Scheme for interspecific hybridisation in cottons at Surat.*

The Report of the Agricultural Research Sub-Committee was adopted.

(e) *Scheme for the investigation of Heliothis Obsoleta as a pest of cotton in the Central Provinces and Berar.*

The Report of the Agricultural Research Sub-Committee was adopted.

(f) *United Provinces Botanical Scheme.*

Dr. Burns said that, as stated in the Agricultural Research Sub-Committee's report, this scheme was an attempt to restart, on a suitable scale, cotton work in the United Provinces where there were now three cottons, viz., A.19, C. 520, and C. 402. Of these, A. 19 and C. 402 were not quite satisfactory. The scheme was divided into two parts. The first part was mainly concerned with the working up of certain materials got from the recent survey and finding out the possibilities of developing them into suitable races; in addition, a further programme for C. 520 and C. 402 was proposed to be carried out. The second part

was an attempt to try short and medium staple cottons, particularly in the pink boll-worm controlled areas, along with selections from improved types. The subject was fully discussed by the Sub-Committee, and the conclusion arrived at was that it was very necessary that this work should be undertaken.

To an inquiry whether there was any Provincial Cotton Committee in existence in the United Provinces, Mr. Richards replied that they had no Provincial Cotton Committee as such, but there was a Sub-Committee of the Upper India Chamber of Commerce which functioned effectively as a Cotton Committee and dealt with any questions put up by the United Provinces Government. The scheme under consideration, for instance, had been referred to that Sub-Committee which had considered it in detail and recommended its acceptance by the Indian Central Cotton Committee.

Lala Shri Ram said that the mills wanted a cotton which was between 4-F and *desi*. They could not import such cotton from Bombay and other places because of the prohibitive freight rates. The quantity available of C. 520 and C. 402 was so small that it was not worthwhile going in for them.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 29.—*Proposed New Seed Distribution and Extension Schemes :—*

*(a) Scheme for financing seed distribution in Sind—
Reference from last meeting of the Committee.*

The scheme put up was for a period of three years in the first instance and involved a net grant of Rs. 46,500 per annum (expenditure Rs. 3,11,500 less receipts Rs. 2,65,000).

In accordance with the principle laid down a year ago that in the matter of seed distribution schemes the Committee should bear either the charges on the staff or those on contingencies, the Agricultural Research Sub-Committee expressed its unanimous view that the Committee should meet the larger item of Rs. 45,000. There was also a general recommendation that the scheme should not be financed until the rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, in a form approved by the Local Sub-Committee had been brought into force in Sind, as it was thought that without this measure the scheme would not be a success.

A proposal was made that the Cotton Transport Act should be applied to Sind to control the transport of seed from the Punjab to Sind. It was, however, thought that the question raised being new it should be first examined by the Sind Cotton Committee.

In regard to the system on which the sales were proposed to be conducted under the scheme it was suggested that instead of salaried agents, the services of ordinary unofficial commission agents should be utilised, as in the Punjab. The five months' period during which the seed depots were proposed to be kept open was considered to be unnecessarily long.

In reply, the Director of Agriculture, Sind, stated that paid staff were necessary to ensure that their services would be readily available and that the seed would be sold off. The period of five months for the sale of

seed was based on the fact that the growers bought their requirements of seed over a long period extending from January to May.

The Report of the Agricultural Research Sub-Committee was adopted subject to the condition that the details of the working of the scheme should be examined at the end of the first year with a view to effecting economies.

(b) *Scheme for maintenance of nucleus of pure seed in the Madras Presidency.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 30.—*Institute of Plant Industry, Indore—Budget for 1938-39 and programme of work.*

The President said that, as in the past, the Agricultural Research Sub-Committee had recommended a basic grant of Rs. 85,000 for 1938-39 and a supplementary grant of Rs. 15,000 for the Indore Institute. The Sub-Committee had gone into the research programme very carefully and approved of the grant.

That the Chemistry and Agronomy Sections were not doing work of a fundamental nature and should, therefore, be abolished after one year was the view held by Mr. Chandulal P. Parikh, who, therefore, proposed that a sum of Rs. 65,000 per annum be sanctioned for the next three years.

The proposal fell through for want of a seconder.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 32.—*Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936.*

The Secretary's note drawing attention to the Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936, as finally published in the Central Provinces and Berar Gazette of 29th October 1937, was recorded.

SUBJECT 33.—*Licensing of Ginning and Pressing Factories—Letter from Director of Agriculture, Punjab.*

It was reported a year ago that the Punjab Government had decided to take no active steps to introduce legislation for licensing ginning and pressing factories until experience had been gained regarding the working of the Act in Bombay and the Central Provinces. As, however, neither of these provinces had put the Act into operation, the Punjab Government had decided to take no further action in the matter for the present.

The opinion expressed by some members of the Punjab Provincial Cotton Committee, that the *Zamindar* got a higher price when mixing was done, that the cultivator would lose if mixing was prohibited and that there were other considerations against legislation, came in for strong criticism. It was pointed out that the grower of *desi* cotton got more by mixing but the grower of American cotton did not. The users of Indian cotton in India preferred pure cotton and would pay the proper price for it.

The question was raised whether Indian mills could buy 13,00,000 bales pure American cotton produced in the Punjab. As there was no market for such a huge crop, it was argued that it had to be exported largely to Japan which wanted mixed cotton and paid the same price for mixed as for pure cotton. To apply the Cotton Ginning and Pressing Factories Act to the Punjab to prevent mixing would, therefore, be suicidal for that Province.

In reply it was pointed out that there was no definite demand from Japan for mixed cotton. Japan purchased mixed cotton not knowing that it was mixed.

It was stated that though there had been a demand for further restrictions on the importation of foreign cotton, especially American, yet the Punjab Government were unwilling to take the one step which would make available a much larger proportion of pure Punjab-American suitable for Indian mills. The Japanese market was now unreliable. The two main markets for Punjab-American were now the Indian mills and possibly the United Kingdom, neither of which wanted mixed cotton.

Several speakers were of the opinion that the problem of 'mixing' in the Punjab added to the difficulties of marketing Indian cotton and finding new buyers for it.

On behalf of the Punjab Government two difficulties were put forward in connection with the licensing of gins and presses. The first related to the question of getting the required legislation passed, and the second to the administration of the Act without the employment of a whole host of inspectors to inspect the factories.

It was pointed out that the Local Sub-Committee had fully discussed details regarding anti-mixing proposals without the employment of inspectors of factories. It was felt that no further progress in the matter would be possible unless the matter were fully discussed with the Hon'ble Minister for Agriculture, Punjab Government.

The Committee agreed that a copy of the debate should be forwarded to the Punjab Government and that the subject should be again discussed at the next cold weather meeting of the Committee which was fixed to be held at Lyallpur when it was hoped that the Hon'ble Minister for Agriculture, Punjab Government, would be able to be present.

SUBJECT 34.—*Restriction of number of commercial types of cotton in the Punjab—Letter from Director of Agriculture, Punjab.*

As decided by the Committee at its last meeting, the question of restricting the number of types of cotton grown in the Punjab and of making their names as simple and as few as possible was considered by the Punjab Provincial Cotton Committee. It was proposed that instead of giving new names to selections from existing types, they should show the main class from which they were derived with a suffix to indicate the particular selection. Thus 43*F*, *K.T.* 25 and 47*F* which were all derived from 289*F* should be known as 289*F*-43, 289*F*-K25 and 289*F*-47 respectively. But as *L.S.S.* possessed totally different characteristics. it was not proposed to add the class indication 4*F* to it.

The proposal of the Punjab Provincial Cotton Committee was accepted.

SUBJECT 35.—*Application of Cotton Transport Act in the Punjab—Letter from the Director of Agriculture, Punjab.*

The question of applying the Cotton Transport Act to the whole or a part of the Punjab was considered by the Provincial Cotton Committee. The conclusion arrived at was that, as in the greater part of the Punjab both American and *desi* cottons were grown side by side, the application of the Act would be of no value, except in certain *tehsils* of the Nili Bar Colony. In regard to the latter, however, the Provincial Cotton Committee felt (1) that the area affected was so small that it would have no appreciable effect on the position as a whole and (2) that the lack of any natural barriers would make it impossible, in practice, to put the Cotton Transport Act into operation there.

It was decided that no action was feasible for the present and that the Secretary's note should be recorded.

SUBJECT 36.—*Proposal for the better marketing of 1027 A.L.F. cotton of the Baroda State.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 37.—*Cotton Policy in Gujarat.*

The complicated question of cotton growing policy in Gujarat came up for consideration once again. The Hon'ble Mr. Morarji R. Desai, Minister for Revenue and Agriculture, Bombay Government, was present during the discussion. The point at issue was whether 1027 A.L.F. should be grown over the whole of Gujarat or whether it should be restricted to the area south of the Tapti, allowing the Selection 1A to spread in the area north of the Tapti. It was argued that in the absence of adequate premium for 1027 A.L.F., Selection 1A gave better net-return per acre and was therefore preferred by the cultivator. Certain co-operative societies were also definitely favouring 1A against 1027 A.L.F. It was, therefore, feared that unless suitable protective measures were adopted, 1027 A.L.F. would gradually disappear.

Several conferences had been held to discuss this important question prior to the meeting of the Central Cotton Committee. The proposals finally placed before it for consideration were :—

(1) That steps should be taken to apply the Cotton Transport Act round the boundaries of 'Olpad Taluka' and the area of Chorasi Taluka north of the Tapti so as to prevent any *kapas* or seed moving out of that area south of the Tapti or into the Baroda territory of Mangrol Taluka on the east or into Ankleshwar Taluka on the north.

(2) That the Bombay Agricultural Department should undertake to purify and improve Surat 1A cotton grown in this segregated area.

(3) That to check the spread of Selection 1A south of the Tapti, the Bombay Cotton Control Act should be so amended as to prevent the cultivation of any cotton inferior in staple to 1027 A.L.F. and that it should be applied to the following areas :—

- (a) Chorasi and Bardoli Talukas of British Gujarat,
- (b) Kamrej and Palsana Talukas of Baroda State, and
- (c) Sachin State.

(4) That the Agricultural Departments of Bombay and Baroda should concentrate on the seed distribution of 1027 A.L.F. in the areas mentioned above.

(5) That as some of the co-operative societies growing Selection 1A in the Olpad Taluka had established Pressing Factories south of the Tapti near Surat, licenses for pressing outside Olpad should be granted but only for pressing at definite scheduled presses and on condition that fully pressed bales would be clearly stamped with "Olpad." To ensure that this condition is rigorously carried out, a staff of inspectors should be appointed in the beginning, if necessary.

(6) That in the area south of the Tapti, earliest opportunity should be taken to utilise the Agricultural Produce (Grading and Marking) Act, 1937, to enable 1027 A.L.F. cotton to be marketed as a special grade of Surat cotton and under a special grade mark protected by law under the Act, and that the Indian Central Cotton Committee should move the Government of India to have cotton included in the schedule under the Act.

After a lengthy discussion during which every aspect of the question was fully examined, the following resolution was passed by the Committee accepting *in toto* the proposals outlined above :—

RESOLUTION.—"The Indian Central Cotton Committee trust that the Governments of Bombay and Baroda will take steps to ensure the cultivation of pure 1027 A.L.F. seed in the Surat district. The proposal contained in the Supplementary Note to restrict the 1A seed to certain zones is approved, and the Committee hope that the result of such experimental restriction will be carefully watched by the Governments. The Committee repeat the view they have consistently expressed that it is essential in the interests of the reputation of Surat cotton and to the ultimate benefit of the cotton growers in Surat that 1027 A.L.F. should continue to be sown in large quantity and to be marketed pure."

It was urged that it would be a distinct disservice to the cotton grower of Surat if the Committee or the Government of Bombay gave way to the clamour of the growers of 1A, who only looked to their immediate benefit which they got because others in the Surat district grew the better staple variety, *viz.*, 1027 A.L.F.

On behalf of the cultivators of 1A in Olpad, it was pointed out that though they would be permitted to grow 1A, they would indirectly be forced to grow 1027 A.L.F. as, in the absence of any suitable arrangement under the proposed zone system, they would have to sell their cotton to one or two ginning factories, thereby giving a monopoly to the latter.

It was pointed out that the Bombay Government would have the fullest co-operation of the trade as well as of the Committee in safeguarding the interests of the cultivators.

The millowners and the trade were unanimous in their opinion that 1027 A.L.F. was the best cotton to grow in the interests of the cultivator of the Surat area. It was admitted that under the existing circumstances the best policy was to distribute 1027 A.L.F. south of the Tapti and 1A seed north of the Tapti. The Committee was prepared to render any assistance in the marketing of 1027 A.L.F. to enable it to hold its own against inferior cottons.

SUBJECT 38.—*Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to the marking of bales.*

At its meeting in March last the Committee considered a representation made by the trade in Bombay regarding the hardships experienced by it from the application of Section 14 of the Cotton Ginning and Pressing Factories Act of 1925, as there had been developing a tendency for the trade to take advantage of what might be called technical errors in marking. The Committee decided that the possibility of meeting the difficulties complained of, by an amendment of the Act or otherwise, should be examined.

The Local Sub-Committee, after informal consultations, made certain suggestions to the Government of India, viz., that Section 14 of the Cotton Ginning and Pressing Factories Act should be amended in such a manner that the right of a purchaser to reject a bale of cotton would be limited to bales not bearing the special mark prescribed for the factory under Section 4 (1) of the Act. Such an amendment, it was thought, would do away with any right to reject cotton for minor faults in the application of the serial number (showing the year and the running number of the bales) and would enable the East India Cotton Association to amend its bye-laws accordingly. It was further suggested that provision should be made either in the Act or in the Rules under the Act that if bales were correctly marked, it would be presumed, as between buyer and seller, that they had been marked before leaving the factory. Further that in Rule 7 of the Indian Cotton Ginning and Pressing Factories Rules which required "every bale of cotton pressed in a cotton pressing factory to be marked with the special mark and the serial number in such a manner as to render the marks clearly decipherable," the word 'clearly' should be omitted and that it should be made clear in the Indian Cotton Ginning and Pressing Factories Rules that there would be no objection to the special mark and the serial number appearing both on the bale and on the hoops, if so desired. The Government of India were requested to forward the draft of any amendment, which they might propose to introduce, to the Committee for an expression of opinion before legislation was actually undertaken.

A further suggestion to add to Section 14 a proviso to the effect that where 50 or more bales were to be tendered in fulfilment of a future contract made under the bye-laws of any recognised cotton association, the lot should not be rejected if a prescribed percentage of bales was marked, was placed before the Committee for consideration.

During the course of the discussion it was pointed out that it should be made clear in the bye-laws that only the wrongly marked bales could be rejected and not the whole tender.

The President said that after the amendment was passed, each Association would have to make appropriate amendments in their own bye-laws. The actual percentage would be fixed by the Government of India by an amendment of the rules and before the amendment was passed all interests would be consulted.

The President then moved the following resolution which was passed unanimously :—

RESOLUTION.—"That the Indian Central Cotton Committee confirms the recommendation of the Local Sub-Committee and is further of the

opinion that a proviso should be added to Section 14 of the Cotton Ginning and Pressing Factories Act to the effect that where 50 or more bales are to be tendered in fulfilment of a future contract made under the bye-laws of any recognised cotton association, the lot should not be rejected if a prescribed percentage of bales is marked."

SUBJECT 39.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

The proceedings of the Punjab Provincial Cotton Committee were recorded.

SUBJECT 40.—*Conference of workers on cotton growing problems—Letter from Secretary, Empire Cotton Growing Corporation.*

The Secretary's note referring to the letter received from the Secretary, Empire Cotton Growing Corporation, regarding the Conference of workers on cotton growing problems, to be held in London in September 1938, was recorded.

SUBJECT 41.—**Report of the Standing Finance Sub-Committee :—*

- (a) Balance Sheet,
- (b) Financial Statement,
- (c) Revised Estimates, 1937-38,
- (d) Budget 1938-39,
- (e) Auditors' Fees.

Regarding paragraph 15 of the Report of the Standing Finance Sub-Committee, it was decided that the Director of Agriculture, Bombay, should be requested to take up the matter of the accounts of the Hubli and Gadag Co-operative Cotton Sale Societies with the Registrar of Co-operative Societies, Bombay, with a view to recovering the amounts due to the Committee.

The following resolutions were passed unanimously :—

RESOLUTION.—"That the Report of the Standing Finance Sub-Committee be adopted."

"That the Revised Estimates for 1937-38 be approved."

"That the Budget for 1938-39, as amended at this meeting of the Committee, be sanctioned."

"That Messrs. S. B. Billimoria & Co. be re-appointed auditors for the year 1938-39 on a remuneration of Rs. 750."

SUBJECT 43.—*Disposal of Defibrating and Delinting machines installed in the British Cotton Growing Association Factory at Khanewal—Letter from the Director of Agriculture, Punjab.*

As Platt's delinting machine and the defibrating machine supplied by Duncan Stratton & Co., were not working satisfactorily, it was decided that the firms should be asked to take them back and refund the cost.

SUBJECT 44.—*Question of balancing the Budget of the Committee—Reference from the Standing Finance Sub-Committee.*

The President said that the Agricultural Research Sub-Committee had recommended that the new procedure suggested by the Standing Finance Sub-Committee should be tried for a year. Under this proposal all new schemes, in future, would have to be submitted at the monsoon meeting of the Committee and they would finally be sanctioned at the budget meeting, so that the Standing Finance Sub-Committee would have a chance of examining them and settling the details at a joint meeting with the Agricultural Research Sub-Committee during the cold weather session.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 46.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The proceedings of the Sind Cotton Committee were recorded.

SUBJECT 47.—*Early morning broadcast of cotton prices.*

The Secretary's note, reviewing the progress made in connection with the proposed broadcasting experiment, for which a sum of Rs. 5,000 had been sanctioned by the Committee for the purchase and installation of 12 receiving sets at suitable market centres, was considered. The Government of India had agreed to advance the hour for the broadcast to 10-30 a.m. and eleven markets, 4 in the Central Provinces and Berar, 2 in the Bombay Presidency, 4 in the Punjab and 1 in the Madras Presidency, had been selected by a Special Sub-Committee for the installation of receivers.

Mr. Roberts said that the time for the broadcast, viz., 10-30 a.m. was too late in so far as the villages were concerned. In reply it was stated that this was the best that the Government of India could do for the present. A report would be submitted to Government after the first season of the experiment regarding the extent to which the broadcast was proving useful to the cultivator, and an opportunity would thus be afforded for making suitable suggestions in the light of the experience gained.

In regard to the selection of suitable markets, it was explained that there was no alternative but to select only such markets as started round about 10-30 a.m., preference being given to smaller markets.

SUBJECT 48.—*Indo-Japanese Trade Agreements, 1937.*

The Secretary's note, referring to the Indo-Japanese Trade Agreements, 1937, was recorded.

SUBJECT 49.—*Madras Herbaceum Scheme—Proposed extension of.*

A strong plea for a reconsideration of the recommendation of the Agricultural Research Sub-Committee was put forward. The proposal was put to vote and declared lost.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 50.—*Scheme for improvement of Mathio cotton, Amreli and Jagudan—Request for additional grant.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 51.—*Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces—Proposal for appointment of Senior Assistant for writing up fresh detailed report.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 52.—*Proposal for the appointment of a Special Sub-Committee to report as to what extent the results of research schemes of the Committee have benefited the cultivator—Letter from Mr. Chandulal P. Parikh.*

Mr. Chandulal P. Parikh said that the Special Sub-Committee of the Agricultural Research Sub-Committee which was appointed to examine in detail the merits of the various agricultural research schemes, and whose findings were considered by the full Committee at its meeting in February 1935, had pronounced its opinion on only four schemes. In respect of four other schemes it was considered too early to express any opinion, while fifteen schemes were allowed to continue. He proposed that the Agricultural Research Sub-Committee at its meeting in July next should examine the 19 schemes on which no opinion had been expressed and submit a full report to the Central Committee.

The seconder of the proposal urged that as every year there were demands from Directors of Agriculture for the financing of schemes, it was only right that an examination should be made into the results of practical utility so far achieved.

On behalf of the Agricultural Officers it was argued that while the principle of reviewing the Committee's research programme was sound in itself the question for decision was as to how often such work should be undertaken. As the schemes of the Committee had been thoroughly examined only three years ago it was too early to review them again. It was pointed out also that schemes were very carefully examined, first by the Provincial Cotton Committees and Directors of Agriculture, then by Sectional Sub-Committees and lastly by the full Agricultural Research Sub-Committee, before they were put into operation. Further, the submission of periodical progress reports on schemes afforded opportunity for terminating any scheme before its sanctioned period if at any stage it was found that it was not living up to its promise. The Committee was therefore warned that by being too nervous it was possible to start pulling the schemes by the root before they had begun to grow. The point was also stressed that it was not possible for a Sub-Committee to estimate correctly the effect of the results of research work on the cultivator, as only the people on the spot who were in actual touch with the schemes were in a position to do so.

After some discussion it was agreed that when any scheme came up for renewal, there should be an examination of the economic value of the results obtained or expected from it and that on the completion of a scheme the Committee should come to a conclusion as to the economic results obtained from it.

SUBJECT 53.—*Proposal for enquiring into the activities and expenses of the Technological Laboratory and the Institute of Plant Industry, Indore—Letter from Mr. Chandulal P. Parikh.*

Mr. Chandulal P. Parikh moved cuts of Rs. 30,000 and Rs. 40,000 in the budget grants of the Technological Laboratory and the Indore

Institute respectively. In his opinion, the work done at the Laboratory was not appreciated by 70 per cent. of the people whom it was meant to benefit, viz., the cultivator, the trade and the mills. The trade and the mills, while recognising the importance of the Laboratory, did not agree with some of the results regarding length of staple, etc., obtained at it. He suggested that it could very well carry on its spinning and other activities relating to research problems with a sum of Rs. 1,40,000 as was the case up to 1935, when its activities began to extend without commensurate results of practical value.

As regards the Indore Institute he drew attention to the Committee's own verdict in January 1935, that the amount spent on the Institute till then had practically been a waste. He thought the genetical and botanical work could be carried on with a sum of Rs. 45,000 while an additional amount of Rs. 20,000 should be sufficient for the Institute's other research work of a fundamental nature. The Chemistry and Agronomy Sections, which absorbed about Rs. 19,000, could be abolished with the exception of, perhaps, one post of a chemist, if necessary.

He uttered a warning that the Committee could not long continue with its present activities unless the cess was doubled because the balance at the end of 1942 would be Rs. 9 lakhs, which was the minimum reserve. To pave the ground for increasing the cess he suggested that attention should be paid to schemes which would appeal to the cultivator and the trade. He visualised great possibilities for the Committee's work during the next five years and in order that the revenues during this period might be well spent, he proposed cuts in the items of expenditure which he felt to be excessive.

In conclusion, he urged that the Laboratory should not undertake tests free of charge for the East India Cotton Association, and Bombay and Ahmedabad Millowners' Associations, who were rich enough to pay for these tests. The bulletins supplied to these Associations should also be charged for.

It was pointed out that there was a long discussion on the subject at the meeting of the Technological Research Sub-Committee and the result was that only one member was in favour of the proposition whilst many others were of the opposite opinion. It was therefore unnecessary to cover the same ground once again.

As only two members were in favour of discussing the proposal of Mr. Parikh and the others against, it was decided that the Secretary's note be recorded.

SUBJECT 54.—*Need for a special mark to distinguish bales of cotton produced from pure seed distributed by the Committee—*
—*Letter from Mr. C. P. Parikh.*

Mr. Chandulal P. Parikh said that as the scheme submitted under subject 9 covered the points raised by him, he had nothing further to say in the matter.

The Secretary's note was recorded.

SUBJECT 55.—*Sale of Verum cotton bales effected during December 1937.*

The Secretary's note giving the prices obtained for Verum during December was recorded.

SUBJECT 56.—*Madras Pempheres and Physiological Scheme—Proposed extension of.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 57.—*Present position of cotton.*

The Vice-President. explained that in October 1937, the ruling prices of cotton were so low that everybody connected with cotton felt that the purchasing power of the cultivator would be seriously injured if the position continued. The Local Sub-Committee considered the matter and after a full discussion resolved upon two lines of action. The first related to reduction of freight rates on cotton, and the second was a recommendation to Provincial Governments that wherever ginning and pressing charges were high, efforts should be made by them to reduce the charges.

It was pointed out that though there had been a rise in cotton rates from Rs. 15 to Rs. 20 over the low point of a few months ago, the position was full of grave risk and doubt. The main question was the stock which would be left on hand in the country towards the end of the season in the event of Japan not being able to buy her normal quantity as during the last few years, in accordance with the Indo-Japanese Trade Agreement.

Disappointment was expressed that the Government of India had not been able to see their way to accepting the Committee's recommendation regarding reduction in railway freight rates on cotton.

The Committee approved of the action taken by the Local Sub-Committee.

At this stage the attention of the Committee was drawn to the reported action of the Japanese commercial body known as the Rangokai proposing to secure exchange permits for import of cotton from India against purchases made till then on the basis of the current low prices and not on the contract prices as entered into, which averaged about Rs. 30 to Rs. 50 per candy more than the current prices. Regarding the amount due to the difference in prices, the Rangokai was reported to have stated that it would see later on, depending on the convenience of the Japanese Government or of the Japanese merchants. The Committee was informed that the East India Cotton Association had wired to the Government of India suggesting that enquiries should be made through the Indian Government Trade Commissioner in Japan, regarding the correctness of the report and that if it was true, Government of India should protest to the Japanese Government with a view to restraining the Japanese merchants from taking the proposed step which amounted to repudiation of contracts. It was urged that if international commercial ethics were to be thrown to the winds in such a short-circuiting manner, a stage had been reached in the Indo-Japanese Trade Agreement when the Government of India must protect those who entered into *bona fide* trade arrangements.

It was felt, however, that in the absence of official confirmation of the above report, the matter could not be profitably discussed by the Committee at the moment.

SUBJECT 59.—*Wide parity between Broach and American cotton in 1936-37—Reference from Local Sub-Committee.*

In recording the note* of the East India Cotton Association as to what exactly was meant by 'parity,' the Committee expressed its appreciation of the trouble taken by the Association in giving a considered exposition of the subject.

SUBJECT 60.—*Proposed extension of appointment of Technological Assistant, Sind.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 31.—*Report† of the Agricultural Research Sub-Committee.*

The following resolution was passed :—

RESOLUTION.—"That the Report of the Agricultural Research Sub-Committee, as now amended, be adopted."

SUBJECT 61.—*Reduction of handling charges on cotton—Reference from Local Sub-Committee.*

The Secretary's note indicating the progress made in the examination by the trade in Bombay of the question of reducing handling charges on cotton was recorded.

SUBJECT 62.—*Policy of the Committee regarding apportionment of cost of schemes during their extension periods—Consideration of replies from Provincial Governments and States.*

It was explained that most of the Provincial Governments had accepted, in principle, the policy laid down by the Committee in 1937, regarding apportionment of cost of schemes between the Committee and the Provincial or State Governments.

It was agreed that no change in the policy as laid down was called for.

SUBJECT (not on the Agenda).—*Telegram from the Karachi Cotton Association.*

The following telegram from the Karachi Cotton Association was read out at the meeting :—

"Request your support to following resolution. The Board of Directors of the Karachi Cotton Association, Ltd., view with grave concern the situation created by the arbitrary decision of the Japan Cotton Spinners' Association to issue exchange permits at lower rates for outstanding contracts of Indian cotton sold at higher prices during the year 1937. The Board emphatically urge the Government of India to take action for remedying the situation as in the opinion of the Board grave implications will result by violating the sanctity of contracts and that the harmonious working of the trade relations between the two countries will be jeopardised."

Attention was drawn to the statement made during the course of discussion on Subject 57 regarding the action taken by the East India

* Appendix IX (page 97).

† Appendix VII (page 58).

Cotton Association in the matter. In the absence of official confirmation of the reported situation, it was suggested that the Committee should not, at that stage, attempt to do more than record the representation of the Karachi Cotton Association.

Trade members, however, urged that if the information was correct, in the interests of the cotton trade, the Indian Central Cotton Committee should take the initiative and request the Government of India to take early action in the matter.

The President said he would place the matter before the Commerce Secretary as soon as he got back to Delhi.

The Vice-President proposed a hearty vote of thanks to the President for having so ably presided over the meeting.

This was carried with acclamation.

The President replying thanked the members for their kind co-operation which had greatly helped him in disposing of the heavy agenda.

D. N. MAHTA,

Secretary.

RESOLUTIONS.

No.

Half-yearly Report of the Publicity and Propaganda Officer.

- 1 "That the half-yearly Report of the Publicity and Propaganda Officer be recorded."

Report of the Cotton Forecast Improvement Sub-Committee.

- 2 "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

Publicity and propaganda work of the Committee.

- 3 "That a Sub-Committee consisting of two Directors of Agriculture, two representatives of growers, and two members of the Standing Finance Sub-Committee with the Vice-President as Chairman, be appointed to report on what propaganda activities the Indian Central Cotton Committee should undertake for the next three years and what staff is necessary."

Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to the marking of bales.

- 4 "That the Indian Central Cotton Committee confirms the recommendation of the Local Sub-Committee and is further of the opinion that a proviso should be added to Section 14 of the Cotton Ginning and Pressing Factories Act to the effect that where 50 or more bales are to be tendered in fulfilment of a future contract made under the bye-laws of any recognised cotton association, the lot should not be rejected if a prescribed percentage of bales is marked."

Report of the Wider Markets Sub-Committee.

- 5 "That the Report of the Special Sub-Committee on Wider Markets for Indian cotton be adopted subject to the deletion of the last sentence of paragraph 8 of the Report."

Appointment of Vice-President.

- 6 "That Sir Chunilal V. Mehta be elected Vice-President for the year 1938-39."

Standing Finance Sub-Committee.

- 7 "That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1938-39 :—

The President (*ex-officio*),
The Vice-President,
Sir Purshotamdas Thakurdas,

RESOLUTIONS—(contd.)

No.

Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Kasturbhai Lalbhai,
 Mr. M. S. Durutti,
 Rao Bahadur Sir Madhaorao Deshpande, and
 Mr. W. J. Jenkins.”

Cotton Ginning and Pressing Factories Sub-Committee.

- 8 “That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

The Vice-President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Mr. M. S. Durutti,
 Mr. J. Vonesch,
 Mr. Kasturbhai Lalbhai,
 Mr. J. Nuttall,
 Mr. W. Roberts,
 Mr. J. Tinker,
 Mr. P. V. Deshmukh,
 The Co-operative Banking Representative (*ex-officio*),
 Mr. W. J. Jenkins,
 Mr. Chellaram Shewaram, and
 Mr. Balak Ram.”

Local Sub-Committee.

- 9 “That the following members be appointed to compose the Local Sub-Committee :—

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Mr. S. D. Saklatvala,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. J. Vonesch,
 Mr. M. S. Durutti,
 Mr. Kasturbhai Lalbhai,
 Mr. Chandulal P. Parikh,
 Rao Bahadur Sir Madhaorao Deshpande,
 Mr. W. J. Jenkins, and
 (One vacant).”

RESOLUTIONS—(contd.)

No.

Agricultural Research Sub-Committee.

- 10 “That the following members be appointed to form the Agricultural Research Sub-Committee :—

- I. The President (*ex-officio*),
- II. The Vice-President (*ex-officio*),
- III. The Co-operative Banking Representative (*ex-officio*),
- IV. Cotton Growers' Representatives—Sardar Sahib Gurbachan Singh, Mr. Roger Thomas, Mr. W. Roberts, Rao Bahadur Sir Madhaorao Deshpande,
- V. Cotton Trade Representatives—Mr. Kasturbhai Lalbhai, Mr. D. K. Kane, Mr. Chandulal P. Parikh, Sir Purshotamdas Thakurdas,
- VI. Agricultural Officers :—

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

The Director, Institute of Plant Industry
Indore (*ex-officio*),

Mr. H. R. Stewart,
Mr. V. Ramanatha Ayyar,
Mr. W. J. Jenkins,
Mr. R. G. Allan,
Rao Saheb K. I. Thadani,
Mr. P. H. Rama Reddi,
Mr. P. B. Richards,
Mr. J. C. McDougall,
Mr. Nizam-ud Din Hyder,
Mr. G. K. Lele,
Dr. V. K. Badami,

- VII. Additional Members :—

Dewan Bahadur Sir T. Vijayaraghavacharya,
Mr. Chellaram Shewaram,
Mr. Mohammad Afzal,
Rai Saheb Kalidas Sawhney,
Mr. K. Ramiah,
Dr. B. L. Sethi, and

- VIII. The Secretary.”

RESOLUTIONS—(contd.)

No.

Technological Research Sub-Committee.

- 11 “That the following members form the Technological Research Sub-Committee :—

The President (*ex-officio*),
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. S. D. Saklatvala,
 Mr. M. S. Durutti,
 Mr. W. J. Jenkins,
 Mr. H. R. Stewart,
 Mr. Chandulal P. Parikh,
 Mr. P. V. Deshmukh,
 Mr. Kasturbhai Lalbhai,
 Mr. P. H. Rama Reddi,
 Lala Shri Ram,
 Mr. J. Tinker,
 Mr. J. Vonesch,
 Dr. Nazir Ahmad, and
 Mr. E. F. G. Gilmore, Director, Industrial Research Bureau.

Additional Members :—

Two representatives each nominated by

The Bombay Millowners' Association,
 The Ahmedabad Millowners' Association, and
 The East India Cotton Association, and

One representative nominated by the Karachi Cotton Association, Ltd.

Research Students Selection Sub-Committee.

- 12 “That the Research Students Selection Sub-Committee be composed of the following members :—

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Dr. W. Burns,

RESOLUTIONS—(contd.)

No.

Mr. P. B. Richards,
 Mr. H. E. Stewart,
 Mr. P. H. Rama Reddi,
 Mr. W. J. Jenkins,
 Mr. T. R. Low,
 Mr. J. C. McDougall,
 Rao Saheb K. I. Thadani,
 Mr. G. K. Lele,
 Mr. R. G. Allan,
 Mr. Nizam-ud Din Hyder,
 Dr. V. K. Badami,
 Mr. Kasturbhai Lalbhai,
 Dr. Nazir Ahmad,
 Mr. K. Ramiah, and
 Seth Isserdas Varindmal."

Cotton Forecast Improvement Sub-Committee.

- 13 "That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President (*ex-officio*),
 The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
 The Director-General of Commercial Intelligence and Statistics,
 The Director of Agriculture, Bombay Presidency,
 The Director of Agriculture, Punjab,
 The Director of Agriculture, Madras,
 The Director of Agriculture, United Provinces,
 The Director of Agriculture, Central Provinces,
 The Director of Agriculture, Sind,
 The Director of Agriculture, H. E. H. the Nizam's Government,
 The Commissioner of Agriculture, Baroda,
 The Director of Statistics, H. E. H. the Nizam's Government,
 The Director of Land Records, Central Provinces and Berar,
 The Deputy Director of Statistics,
 The Statistical Officer to the Director of Industries, Madras, and
 Mr. J. Vonesch."

RESOLUTIONS—(*contd.*)

No.

Wider Markets Sub-Committee.

- 14 "That the Wider Markets Sub-Committee be composed as follows :—

The President,
 The Vice-President,
 Sir Purshotamdas Thakurdas,
 Dewan Bahadur Sir T. Vijayaraghavacharya,
 Mr. H. R. Stewart,
 Mr. P. B. Richards,
 Dr. W. Burns,
 Mr. W. J. Jenkins,
 Rao Saheb K. I. Thadani,
 Mr. Nizam-ud Din Hyder,
 Mr. S. D. Saklatvala,
 Mr. J. Vonesch,
 Mr. Chandulal P. Parikh,
 Mr. P. V. Deshmukh,
 Mr. Balak Ram,
 Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
 Mr. P. H. Rama Reddi,
 Mr. J. C. McDougall,
 Mr. W. Roberts,
 Seth Isserdas Varindmal,
 Mr. Kasturbhai Lalbhai,
 Mr. Sayed Miran Mohammad Shah,
 Mr. M. S. Durutti,
 Dr. Nazir Ahmad, and
 Mr. R. G. Saraiya—Additional Member."

- 15 "That the thanks of the Indian Central Cotton Committee be conveyed to the Empire Cotton Growing Corporation for their readiness and generosity in giving the services of Dr. T. G. Mason, F.R.S., to examine and report on the Physiological Research work financed by the Committee in the Punjab."

RESOLUTIONS—(concl.)

No.

Cotton Policy in Gujarat.

- 16 "The Indian Central Cotton Committee trust that the Governments of Bombay and Baroda will take steps to ensure the cultivation of pure 1027 A.L.F. seed in the Surat district. The proposal contained in the Supplementary Note to restrict the 1A seed to certain zones is approved, and the Committee hope that the result of such experimental restriction will be carefully watched by the Governments. The Committee repeat the view they have consistently expressed that it is essential in the interests of the reputation of Surat cotton and to the ultimate benefit of the cotton growers in Surat that 1027 A.L.F. should continue to be sown in larger quantity and to be marketed pure."

Report of the Agricultural Research Sub-Committee.

- 17 "That the Report of the Agricultural Research Sub-Committee, as now amended, be adopted."

Progress Report of the Director, Technological Laboratory.

- 18 "That the Report of the Director, Technological Laboratory, be approved."

Report of the Technological Research Sub-Committee.

- 19 "That the Report of the Technological Research Sub-Committee be approved."

Report of the Standing Finance Sub-Committee.

- 20 "That the Report of the Standing Finance Sub-Committee be adopted.

"That the Revised Estimates for 1937-38 be approved."

"That the Budget for 1938-39, as amended at this meeting of the Committee, be sanctioned "

"That Messrs. S. B. Billimoria & Co. be re-appointed Auditors for the year 1938-39 on a remuneration of Rs. 750."

Report of the Research Students Selection Sub-Committee.

- 21 "That the Report of the Research Students Selection Sub-Committee be adopted."

APPENDIX I.

SUBJECT 12.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules framed by Sind Government.*

Secretary's Note.

The attached draft Sind Cotton Ginning and Pressing Factories Rules,* 1937, which are proposed to be issued under Section 13 of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, received from the Sind Government are for information. They closely follow the Bombay Rules.

2. The principal differences are indicated below :—

BOMBAY RULES.

Admixture of cotton.

SIND RULES.

Admixture of cotton.

3. (1)

(a) A mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning factory or a cotton pressing factory.

(b) Such prescribed mixtures of different varieties of cotton as are laid down in the attached schedule.

3. (1)

(a) A mixture of *deshi* with American or Egyptian varieties of cotton in which the percentage of the *deshi* cotton exceeds ten per centum.

(b) A mixture of American or Egyptian varieties possessing a staple length of $\frac{3}{4}$ " and under, with American or Egyptian varieties with a staple length above $\frac{3}{4}$ " in which the percentage of shorter stapled variety or varieties exceeds 15 per centum.

Grant of license.

5. (2) The fees prescribed for any such license shall be two hundred and fifty rupees and every application for a license shall be supported by a Treasury receipt showing the payment of the said amount in the Treasury.

Provided that in the case of factories constructed after the commencement of these rules, a license shall not be granted except upon the production of a certificate from the Chief Inspector of Factories, Bombay, that the structural requirements specified in sub-sections (1) & (2) of Section 9 have been duly provided in the factory for which the application for license is made.

5. (2) The fee prescribed for any such license shall be Rs. 250 provided that when the license is applied for in respect of cotton ginning factory and a cotton pressing factory located in the same premises, the fee prescribed shall be Rs. 400.

No corresponding proviso.

Authority competent to give a certificate of moisture.

8. (1) The Director of Agriculture or the Deputy Director of Agriculture of the Division concerned shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of cotton should have, as also the quantity of moisture it possesses.

Authority competent to give a certificate of moisture.

8. (1) The Director of Agriculture, Sind, shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of ginned cotton should have, as also the quantity of moisture it possesses.

BOMBAY RULES—(contd.)

Authority competent to give a certificate of moisture —(contd.)

(2) Such certificate may be based on—

(a) An analysis of the cotton carried out at any Agricultural Research Station of the Agricultural Department in the Bombay Presidency or at the Laboratory of the Indian Central Cotton Committee, Matunga, Bombay, at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay.

(b) The report of such members of the East India Cotton Association, not less than two in number, selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay, from the panel of arbitrators selected, under the rules in force for the time being of the said Association.

Complaint of offences.

9. (2) Such complaint shall be made in writing to the Director of Agriculture or the Deputy Director of Agriculture of the Division in which cotton was pressed and shall be accompanied by a sample of the cotton complained of; provided that no such complaint shall be entertained unless a fee of Rs. 10 for each bale or package or part thereof is paid at the time of making the complaint.

(3) The Director of Agriculture or the Divisional Deputy Director of Agriculture concerned, on receipt of such complaint, shall cause the cotton, package or bale in respect of which the complaint has been made, to be seized and sealed and shall forward the same for examination and report to the authority prescribed under these rules.

Authority competent to examine cotton, etc.

10.—

(1) The Director of Agriculture, Bombay.

(2) The Deputy Director of Agriculture, or

(3) Any two persons selected by the Board of Directors of the East India Cotton Association at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay from the panel of arbitrators elected under the rules in force for the time being of the said Association.

3. As regards the license fee, mentioned in rule 5 (2), it may be stated that the Committee at its last meeting, while considering the views of the East India Cotton

SIND RULES—(contd.)

Authority competent to give a certificate of moisture —(contd.)

(2) Such certificate may be based on—

(a) The analysis of the cotton carried out at the Agricultural Research Station at Sakrand or at any other station or farm of the Agricultural Department in Sind, or

(b) On the report of such members (not less than two in number) of the Karachi Cotton Association, Ltd., or the Sind Cotton Committee as the Director of Agriculture may generally or specially nominate for examining the cotton.

Complaint of offences.

9. (2) Such complaint shall be made in writing to the Chairman, Sind Cotton Committee, and shall be accompanied by a sample of the cotton complained of; provided that no such complaint shall be entertained unless a fee of Rs. 10 for each bale or package or part thereof with a minimum fee of Rs. 50 is paid at the time of making the complaint.

(3) The authority for this rule is the Chairman, Sind Cotton Committee.

Authority competent to examine cotton, etc.

10.—

(a) The Director of Agriculture, Sind, or

(b) The Chairman, Sind Cotton Committee, or

(c) Any two persons selected by the Board of Directors of the Karachi Cotton Association, Ltd., at the request of the Director of Agriculture, Sind, or the Chairman Sind Cotton Committee, from the panel of arbitrators elected under the rules for the time being in force of the said Association.

Association on the draft rules framed by the Government of Bombay agreed with the Association's view that the license fee should not be more than Rs. 100. This view has been communicated to the Bombay Government.

4. The Committee at its meeting held in March 1937, after considering the Bombay Rules forwarded the following views to the Bombay Government :—

- (1) In carrying out moisture tests the Committee desires to suggest to the Local Government that the method adopted by the East India Cotton Association and the Technological Laboratory should be followed. Such tests are at present carried out by the Technological Laboratory with a standard conditioning even costing about Rs. 1,650.
- (2) As regards draft rule 8 (2), the Committee is of opinion that the members of the East India Cotton Association should not be included among the authorities competent to give certificate of moisture tests.
- (3) The Committee considers it very desirable that the Act should be put into operation before the commencement of the next cotton season in November 1937 to avoid the difficulties which would arise in dealing with cotton bales watered before the Act is put into force.

5. The draft rules were considered by the Local Sub-Committee at its meeting held on the 29th October 1937. The Sub-Committee observed that the Sind Rules whilst generally following the Bombay Rules were in several respects less strict. It, however, decided that the Local Government should be requested to put the rules into force as early as possible and that, if further amendments were required, they could be incorporated after gaining experience from the working of the Act.

6. Intimation has since been received from the Local Government that the draft rules will be finally published as soon as certain objections submitted have been disposed of.

APPENDIX II.

SUBJECT 13.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Sub-Committee met at 11 A.M. on the 24th January 1938.

Post-mortem examination of cotton forecasts of 1936-37 season.

*The United Provinces :—*The Sub-Committee noted that against the forecasted figure of 174,900 bales the approximate quantity of cotton ginned plus village consumption was 203,000 bales, and recommended that the Director of Agriculture, United Provinces, should be requested to examine the whole position in the light of the available information for the last ten years.

*The Punjab :—*It was found that the actual crop for the Punjab excluding village consumption agreed closely with the forecast figure, but if the figure for village consumption estimated at 233,000 bales on the basis of recent enquiries were included, the forecast resulted in an under-estimate to that extent. It was, however, pointed out that the estimate of village consumption was probably on the high side owing to the fact that the figure of *per capita* consumption of the investigated villages was applied to rural (village) as well as to urban (town) population and it was suggested that the consumption of cotton in towns for domestic purposes should be investigated by the Director of Agriculture, Punjab.

*Rajputana and Central India States :—*The Sub-Committee observed that the forecasts of these States had been consistently under-estimated and recommended that the Government of India in the Department of Education, Health and Lands, should be requested to take up the question of improving the forecast returns of the States in question through the Residents concerned. In order that such under-estimates might not recur in the all-India forecasts it was suggested that, in the meantime, the Director-General of Commercial Intelligence and Statistics should be requested to investigate the possibility of applying a correction factor to the estimates, on the basis of the figures of actual crop for the last five years.

In regard to Statistical Leaflet No. 5 (1934-36) "Report on the accuracy of the cotton forecasts of 1934-35 and 1935-36 seasons," the Sub-Committee suggested that in future reports an additional table should be included comparing the figures of approximate quantity of cotton ginned plus village consumption with the forecasts, according to major trade blocks. A similar table should also be included, in future, in the usual note on the *post-mortem* examination of cotton forecasts.

A consolidated report on the enquiries into the village consumption of cotton in the different Provinces and States, conducted with the funds of the Committee,

together with the estimates for all-India village consumption, based on these enquiries, was considered by the Committee at its last meeting and it was decided to forward the original data to Prof. Mahalanobis for his views. The Sub-Committee considered the note put up by the Secretary on this subject and in view of Prof. Mahalanobis' opinion that the work had been quite well done and that it was doubtful whether the treatment of the available data could be improved very appreciably, recommended that the results of the enquiries and the all-India estimates based on them might be published, indicating at the same time the limitations of the figures.

The Sub-Committee considered a letter from the East India Cotton Association recommending that Palanpur State should be included under "*Rajputana desi*" instead of "*Dholleras*" in the revised trade classification of Indian cotton, unless the State was prepared to apply the Cotton Transport Act to the area, and decided that the suggestion of the Director of Agriculture, Bombay, that Palanpur State should be included under "*Rajputana desi*" and excluded from the forecasts of Bombay Province, should be adopted.

The Sub-Committee considered a note on the revision of the standard yield figures for cotton in the Punjab, and recommended that a sum of Rs. 1,500 should be sanctioned for carrying out a statistical examination of the data already available with the Punjab Agricultural Department to see if more accurate figures for the standard yield could be arrived at for the Province.

APPENDIX III.

SUBJECT 14.—*Summary of Proceedings of the Local Sub-Committee.*

Secretary's Note.

Four meetings of the Sub-Committee were held since the last meeting of the Committee. Messrs. G. C. R. Coleridge and S. B. Samoilys have since resigned from the Committee and the question of filling their vacancies on the Sub-Committee for the current year will be taken up after the appointment of their successors.

2. Complaints regarding incorrect marking of bales, watering of cotton and admixture in cotton and the action taken thereon were considered and recorded by the Sub-Committee.

3. The B. B. & C. I. Railway authorities brought to the notice of the Committee the fact that inferior *Rajputana Desi* cotton grown in Jodhpur State was taken to Mehsana and rebooked from there to stations in the Ahmedabad District, Dhinoj State, cotton from which is officially classified as Wagad. As it appeared that the object of this practice was to pass off *Rajputana* cotton, which is tenderable against the Bengals Contract, as cotton from Mehsana, which is tenderable against the Broach Contract, thus enabling a merchant to secure a higher basis of valuation for his cotton from Bengals to the Broach Contract under the Hedge Contracts of the East India Cotton Association, the question of the application of Cotton Transport Act to the Mehsana District was accordingly taken up. The subject was considered at three meetings of the Sub-Committee and it was decided that the Baroda State should be requested to prohibit under the Cotton Transport Act importation of cotton into the Mehsana District both by rail and road except under license. The Baroda Government have agreed to do this.

4. In view of the prevalence of the malpractice of mixing inferior *Rajputana* cotton with superior cotton in the Central Provinces and Central India, the Sub-Committee at its meeting in May 1935 had decided that the President should be addressed to move the Government of India to request the Gwalior and Bhopal States to take early steps to prevent imports of cotton from *Rajputana* into Central India, in the interests of the cotton growers of the whole of the Central India cotton tract. As neither the Gwalior Government circular nor the Bhopal Act since issued prohibited the importation of inferior cottons into these States, the Sub-Committee, while approving of the action taken by the States, expressed opinion that unless the importation of inferior cotton into the States was prohibited, the measures would not be complete.

5. In May 1935, the Bombay Government asked for the considered opinion of the Committee on the proposal placed before them by the East India Cotton Association for the amendment of its bye-laws to bring Cotton Options within the scope of their recognised dealings. The subject was considered by the Committee at two of its meetings and its final recommendations in favour of the validation of options were forwarded to the Bombay Government. The Sub-Committee considered and recorded the decision of the Bombay Government not to proceed for the present with the question.

6. The Sub-Committee considered at its meetings the complaints made by the International Federation of Master Cotton Spinners' and Manufacturers' Associations regarding the presence of foreign matter in Indian cotton. At its meeting on the 30th April, the Vice-President undertook to discuss the matter with Sir Richard Jackson, Chairman of the Lancashire Indian Cotton Committee, whilst he was in London in connection with the Indo-British Trade Agreement. After his meeting with Sir Richard the Vice-President was able to inform the Sub-Committee that as far as Lancashire spinners were concerned there were no complaints regarding Indian cotton and that they were satisfied with it.

7. At its meeting held in April 1937, the Sub-Committee agreed to support a representation made by the East India Cotton Association to the Government of Bombay for the collection, through Government agency, of the statistics of imports of cotton into Bombay by motor lorry. The Sub-Committee considered a letter received by the Association from the Bombay Government stating that the Provincial Government were willing to consider the question of entrusting to the Tobacco Department the duty of collecting the statistics required if, as a result of the examination of the future of tobacco taxation made, the Tobacco Department's duty of examining road traffic was retained. The Sub-Committee decided that the Bombay Government should be requested to make arrangements for the collection of the statistics in question even if the Tobacco Department's duty of examining road traffic were not retained as in its opinion these statistics were absolutely essential.

8. The Sub-Committee considered the question of the proposed replacement of Karunganni C. 7 as one of the standard cottons by K.P.T. 1, and decided that Karunganni C. 7 should continue to be treated as a standard Indian cotton and not be replaced by K.P.T. 1 until such time as the latter had been approved by the trade, and the area under it had expanded sufficiently to enable its performance being judged on a comparative basis.

9. The Sub-Committee considered in November 1937 a letter from the Government of Bombay inviting the views of the Committee on a suggestion made to them for giving relief to the cotton grower from the slump in cotton prices by raising the import duty on those varieties of foreign cotton which competed directly with Indian cotton in India so as to effectively shut them out during the current year. It was decided that the Government of Bombay should be informed that if in the coming few months cotton prices reached parity with American, a protective duty on imported cotton of staple length 1 inch and under would in the opinion of the Committee definitely help the cotton grower.

10. The Sub-Committee considered a representation from the Taluka Development Association, Navapur, on behalf of the Bhil cultivators, regarding the restrictions imposed on the import of cotton from Navapur to places in the Surat district which is protected under the Cotton Transport Act, as a result of which ginning and pressing factories at Navapur were stated to be charging exorbitant rates. The Director of Agriculture, Bombay, agreed to take up the matter with the factory owners concerned and to submit a report in due course. The Deputy Director of Agriculture, N.C.D., submitted a report which indicated that as a result of the negotiations conducted, ginning charges were reduced from Rs. 7-6-3 to Rs. 5-8-0 per *bhar* and pressing rates from Rs. 6-4-0 to Rs. 4-10-0 per bale. The report was considered by the Sub-Committee and it was decided that the Director of Agriculture, Bombay Presidency, should be informed that Rs. 4 per *bhar* for ginning and Rs. 3 per bale for pressing would be a fair charge.

11. The Sub-Committee also considered the following subjects which form separate items on the agenda of this meeting of the Committee and, therefore, have not been detailed here :—

- (a) Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936.
- (b) Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to marking of bales.
- (c) Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules framed by the Sind Government.
- (d) Cotton Policy in Gujarat.
- (e) Reduction of handling charges on cotton.
- (f) Wide parity between Broach and American cotton in 1936-37.
- (g) Present position of cotton.
- (h) Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments.

APPENDIX IV.

SUBJECT 17.—*Report of the Wider Markets Sub-Committee (as amended by the Indian Central Cotton Committee on 26th January 1938).*

The Sub-Committee met at 12 noon on the 22nd January 1938.

Mr. P. H. Rama Reddi was appointed a member of the Sub-Committee for the remainder of the current financial year in the place of M. R. Ry. Dewan Bahadur D. Ananda Rao Garu, resigned.

The letter from the Lancashire Indian Cotton Committee stating that they had had no further complaints regarding paint on the uncovered ends of bales of Indian cotton since the matter was reported in March 1937 was recorded.

In pursuance of the decision of the Local Sub-Committee in April 1937, samples of Mathia cotton were sent to the Indian Trade Commissioners, London, Milan and Hamburg with a view to finding out if this cotton could be used for purposes other than the manufacture of textiles. As from a letter from the Lancashire Indian Cotton Committee it appeared that there was not much scope for this cotton amongst manufacturers in England, the Sub-Committee considered that no further action was necessary.

The Sub-Committee considered the replies received from trade bodies on the subject of the proposed establishment of an overseas organisation, which was accepted in principle at the last meeting of the Committee, and decided that no further action was necessary as trade opinion was generally not in favour of the proposal.

The Sub-Committee decided that copies of monthly reviews on the state of foreign trade in Indian cotton received from the Director-General of Commercial Intelligence and Statistics should be sent to trade associations.

The Sub-Committee recommended for sanction the scheme for a cotton marketing survey in the Punjab at an estimated expenditure of Rs. 6,719 spread over a period of 15 months. It was suggested that copies of the scheme should be circulated to commercial bodies for their comments which should be forwarded to the Director of Agriculture, Punjab, for necessary action. It was further suggested that such factories as have delinting and defibrating machines should be added to the list under item X (1) of the synopsis.

The Sub-Committee considered a scheme for a cotton marketing survey in India prepared by Mr. A. M. Livingstone, Agricultural Marketing Adviser to the Government of India, in accordance with the decision of the Committee at its meeting held in August last, and decided that it should be circulated to commercial bodies for opinion in the first instance.

The Secretary's note regarding the Indo-Japanese Trade Agreements, 1937, was recorded.

The President's note on the possibility of increasing exports of Indian cotton to European countries was considered and recorded.

Copy of letter No. 45/63-1237, dated the 17th November 1937, from the Director of Agriculture, Punjab, to the Secretary, Indian Central Cotton Committee.

Scheme for a cotton marketing survey in the Punjab.

I have the honour to say that under the Agricultural Marketing Scheme, which is being financed extensively by the Imperial Council of Agricultural Research, marketing surveys are being made for all the principal crops except cotton which appears to have been excluded because all matters in the interests of cotton growing are entrusted to the Indian Central Cotton Committee.

The Indian Central Cotton Committee has been anxious in the past for the establishment of regulated cotton markets in the Punjab on lines similar to those which

exist at some centres in other provinces but this Department took the view that it would not be economical to establish such markets for the sale of one commodity only and that the better way would be to introduce the necessary reforms in existing markets which deal with all the various farm commodities. Before, however, market reforms can be introduced, it is necessary that an intensive survey of all the crops concerned should be made in order to determine all the directions in which reform is needed.

It is desirable, therefore, that an immediate survey of the cotton crop be made on lines parallel to those used in similar surveys for other crops under the schemes financed by the Imperial Council of Agricultural Research and that the results of this survey should be available at the same time as those of other crops. The attached scheme has been prepared for this purpose and it is requested that the Indian Central Cotton Committee will kindly finance it for a period of 15 months beginning on 1st April 1938, at a cost of Rs. 6,719 according to the details given in the scheme. The immediate supervision of the survey will be done by the Marketing Officer, Punjab, as in the case of other marketing surveys.

The proposal was considered by the Punjab Provincial Cotton Committee at its meeting held on 30th October 1937, and it was unanimously agreed to recommend it to the Indian Central Cotton Committee for acceptance and provision of funds.

SCHEME FOR A COTTON MARKETING SURVEY IN THE PUNJAB.

Proposals have been made by the Indian Central Cotton Committee from time to time in the past that regulated cotton markets should be established in the Punjab on lines similar to those which exist at some centres in other provinces. After a thorough examination of the proposal the Department of Agriculture took the view, that it would not be economical to establish regulated markets for the sale of one commodity only. The better way would be to introduce the necessary reforms in existing markets which deal with all the various farm commodities.

Before market reforms can be introduced it is essential that an intensive survey be made in order to determine all the directions in which reform is needed in respect of each commodity. Under the Agricultural Marketing Scheme, which is being financed extensively by the Imperial Council of Agricultural Research, the necessary surveys are being made for all the principal crops except cotton which appears to have been excluded because all matters in the interests of cotton growing are entrusted to the Indian Central Cotton Committee. The net result of neglecting to conduct a marketing survey for cotton is that, when the time comes shortly to consider what improvements can be effected in the various Punjab markets (and presumably the same holds good for other provinces as well), there will not be available to Government the same detailed information as to the existing defects in the case of cotton which has been collected for all other crops and farm commodities. Cotton is a very important crop in the Punjab and if the necessary improvements in marketing it are to be made simultaneously with those for other farm commodities, it is essential that a marketing survey of cotton should be conducted without delay.

Accordingly, it is proposed that a cotton marketing survey be carried out in the Punjab on lines parallel to those used in similar surveys for other crops under the scheme financed by the Imperial Council of Agricultural Research. In drafting the attached synopsis for the survey, the Marketing Officer, Punjab, has drawn freely on the synopses prepared by the Agricultural Marketing Adviser to the Government of India, in respect of other agricultural commodities, but, where necessary, modifications have been introduced to suit the particular requirements of cotton.

It is proposed that the Indian Central Cotton Committee should finance this cotton survey on lines similar to those on which the Imperial Council of Agricultural Research finance surveys of other crops. The immediate supervision of the survey will be done by the Marketing Officer, Punjab, as in the case of other marketing surveys. It is considered that the actual survey work will occupy a period of twelve months and that a further three months will be required for putting the data together and preparing a full and final report. It is requested, therefore, that the Indian

Central Cotton Committee will kindly finance this scheme for a period of fifteen months beginning on 1st April 1938, at a cost of Rs. 6,719 according to the details given below :—

Item of expenditure.	11 months of the 1st year.	4 months of the 2nd year.	Total.
	Rs.	Rs.	Rs.
1 Assistant Marketing Officer @ Rs. 200—15—275/15—470/15—500— 20—600	2,200	845	3,045
2 Clerks @ Rs. 35-1½-65/2-75	770	289	1,059
1 Peon @ Rs. 14	154	56	210
Compensatory Allowance to two clerks @ Rs. 3 p.m. each and to the peon @ Rs. 1 p.m.	77	28	105
Travelling Allowance	1,400	400	1,800
Contingencies including stationery ..	5 00		500
Total .. .. .	....	..	6,719

SYNOPSIS.

Marketing of Cotton in the Punjab.

I—Supply.

(1) *Production.*

- (a) Acreage and trend of sowings—comparison with other Provinces and States in India.
- (b) Types and varieties cultivated—proportion of acreage under the more important types.
- (c) Season of sowing and harvesting.
- (d) Yield per acre and total production of various types.
- (e) Quantity (actual or proportion) retained in villages or by producers of :—
 - (i) lint for spinning, quilt-making, etc.
 - (ii) seed for consumption by cattle and for seed, etc.
 - (iii) lint and seed for other domestic industries.
- (f) Season of marketing with particular reference to monthly variations and the normal periods of greatest and shortest supply—effect of natural conditions on flow of supplies.

(2) Imports and exports of (i) unginned cotton, (ii) cotton lint, (iii) cotton seed, (iv) cotton seed oil, (v) cotton seed cake, and (vi) cotton cloth.

- (a) Quantities.
- (b) Qualities.
- (c) Sources of origin of imports and destination of exports.
- (d) Periodicity.
- (e) Trend.
- (f) Factors affecting intra and inter-provincial movements.

(3) Total and net available supplies of unginned cotton and cotton products in terms of *kapas* (in tons)—value in rupees.

II—Demand.

(1) Qualitative—(a) Characteristics in relation to consumers' requirements with particular reference to preference given by consumers to special qualities for different purposes.

(2) Quantitative—e.g., demand for export, demand from different ginning and pressing factories, demand of lint for spinning, etc., from different sizes and types of mills.

(3) Seasonal variations—causes.

(4) Trend—factors affecting.

(5) Analysis and summary of internal and external demand.

III—Wholesale prices.

(1) Prices of cotton and cotton products—general, with a note on the system of trade descriptions and classification for the purpose of price quotations.

(2) Trend,

(3) Prices of different qualities including those derived from different sources, and quality factors affecting prices.

(4) Price variations between different markets—causes.

(5) Seasonal variations—factors affecting.

(6) Range of price variations for the same quality at any given time in a market—causes.

(7) Prices of mixed and unmixed cotton, cotton lint, etc.

(8) Market intelligence or supply of information regarding prices, stocks, arrivals, etc.

IV—Preparation for Market.

(1) Methods and time of picking—effect on quality.

(2) Effect of dampness, dry leaves and other impurities on quality with reference to the economics of clean picking.

V—Assembling.

(1) Practice of assembling *kapas* :—

(a) by individual producers,

(b) by landlords and village merchants,

(c) by wholesale merchants (including buying agents of ginning and pressing factories, etc.),

(d) by Producers' Co-operative Societies.

(2) Finance of assembling :—

(a) financial relations between producer and merchants,

(b) functions of market associations, banks, etc.,

(c) condition of cultivators in regard to hypothecation of standing crops.

VI—Distribution.

A—Wholesale.

(1) Wholesale markets :—

(a) constitution, ownership, functions and types of—

(b) customs, practices and charges including regulated exchanges and ' futures ' markets.

(c) method and time of sale.

(2) Wholesale distribution of *kapas* :—

(a) by producers direct,

(b) by merchants or commission agents.

(c) by agricultural co-operative societies.

(3) Finance of wholesale distribution (advances by banks and other financial agencies).

(4) Wholesale price structure (summary of assembling and distribution charges).

(5) Note on persons engaged in wholesale distribution including description of wholesale trade associations, their constitution and functions.

(6) Malpractices in assembling and distribution with suggestions for removing them.

B—Retail.

- (1) Retail markets :—
 - (a) constitution, ownership, functions, etc.,
 - (b) customs, practices and charges.
- (2) Retail distribution of *kapas* by :—
 - (a) producers direct,
 - (b) merchants or commission agents,
 - (c) petty traders.
- (3) Retail prices and price margins.
- (4) Note on persons engaged in retail trade.

VII—Grading and Standardization.

- (1) Existing systems of classification.
- (2) Practices regarding :—
 - (a) sales on samples,
 - (b) sales on fair average quality,
 - (c) sales on basis of standard contracts for internal and export trade,
 - (d) maintenance and observance of contract standards including arbitration arrangements,
 - (e) contracts for trading in “ futures.”
- (3) Possibilities regarding grading and standardization.

VIII—Conservation.

- (1) Practices regarding storage (i) in villages, (ii) in the markets, (iii) in ginning and pressing factories and other establishments.
- (2) Effect of storage on quality.
- (3) Cost of storage.
- (4) Note on amount and seasonal variations in stocks and carry-overs.
- (5) Possibilities of improved storage facilities.

IX—Handling and Transportation.

- (1) Handling (in bulk and bags)—methods and costs :—
 - (a) on the farm,
 - (b) at the market,
 - (c) at the factories,
 - (d) at the rail head,
 - (e) at river head.
- (2) Transport—methods and costs by road, rail and water.
- (3) Directional and quantitative movement with reference to the chief producing and consuming centres.
- (4) Possibilities of improved handling and transport.

X—Manufacture and distribution of cotton products.

- (1) Number, location, capacity, working periods and output of :—
 - (a) ginning and pressing factories,
 - (b) cotton seed crushing mills,
 - (c) textile mills,
 - (d) handlooms, *kohlus*, etc.
- (2) Effect on quality of products turned out by different types of machinery.
- (3) Wholesale and retail distribution of various products and containers used.
- (4) A note on ginning and pressing of cotton with particular reference to (i) the practice of mixing short and long stapled cottons, (ii) peeling among ginning factories and its effect on prices of cotton, (iii) methods of purchasing cotton, (iv) methods and costs of baling, etc.
- (5) A note on the cotton seed crushing industry with particular reference to (i) the utilisation of cotton seed oil and cotton seed cake, (ii) methods and cost of manufacture, and (iii) possibilities of development.

(6) A note on the weaving industry including the manufacture of khaddar cloth, durries, majnuns, etc.

(7) A note on the manufacture of mercerised cotton cloth and on the substitutes employed in various industries in place of cotton and cotton products.

(8) Adulteration and possibilities of standardisation.

(9) Analysis and summary of internal and external demand for different products.

(10) Manufacturers' associations—constitution and functions.

(11) Possibilities of development in regard to the manufacturing of cotton products.

XI—Seed.

(1) Supplies :—(a) Sources, (b) Distribution.

(2) Control of seed.

(3) Research institutions.

(4) Further possibilities of improved seed production.

XII—Weights & Measures and Units of Sale.

Note on weights and measures in current use in regard to :—

(a) size and nature of weights,

(b) scales employed,

(c) nature of measures,

(d) customary units of sale :—

(i) for the purpose of price quotation,

(ii) for transacting delivery.

XIII—Summary and concluding observations.

APPENDIX V.

SUBJECT 20.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 10.30 a.m. on Saturday, the 22nd January 1938.

Mr. P. H. Rama Reddi was appointed a member of this Sub-Committee for the current financial year *vice* M. R. Ry. Dewan Bahadur D. Ananda Rao Garu retired.

The Sub-Committee approved of the suggestion that proposals for the carrying out of tests on samples to ascertain the effect of rotation, sowing dates and differential irrigation on the quality of cotton should first be considered by the Agricultural Research Sub-Committee before such work is undertaken at the Laboratory. It was explained that such tests stood on a different footing from those on samples sent by plant breeders for the usual fibre or spinning tests.

With regard to tests on the effect of humidity on the spinning performance of Indian cotton, it was decided that the tests on another 7 or 8 cottons should be completed and the results obtained placed before the Technological Research Sub-Committee to enable it to fix a standard for the future.

The report of the Director, Technological Laboratory, was approved.

The Revised Estimates* for 1937-38 and the Budget for 1938-39 were approved.

The report of the Director on the work done at the Conference of Technological Assistants and the Senior Staff of the Laboratory was approved.

The progress reports of the two Research Students, Messrs. M. U. Parmar and G. Rama Rau were recorded. On the recommendation of the Director, the extension of the scholarship of Mr. M. U. Parmar for a further period of six months was approved.

The proposals submitted by the Director of Agriculture, Punjab, in consultation with Mr. W. Roberts for research into the improvement of cotton ginning machinery which had been postponed from the last meeting were considered. It was decided that a Special Sub-Committee consisting of the Vice-President (as *ex-officio* Chairman) and Messrs. Stones, Vonesch, Saraiya, Kasturbhai Lalbhai and Dr. Nazir Ahmad should be appointed to draw up an alternative scheme for investigation of the problem at the Technological Laboratory.

The Sub-Committee considered a letter from the East India Cotton Association forwarding a suggestion from the Ahmedabad Millowners' Association that trade tests should be carried out on Sudan cotton which was consumed in large quantities in Ahmedabad mills and decided that such tests should be carried out and charged for at the rates applicable to foreign cottons.

The Sub-Committee considered an application from the Junior Testers and Statistical Clerks of the Technological Laboratory for a revision of their grades of pay and decided that no revision was necessary.

The Sub-Committee considered and approved of the correspondence between the Director and the Textile Institute, Manchester, regarding copyright arrangements in connection with the publication of the Technological Bulletins of the Laboratory in the Journal of the Textile Institute.

The Director's report on the first Conference of practical carders and spinners and the Senior Staff of the Laboratory was recorded. On a suggestion that invitations for the Conference should be sent direct to all the mills in India, it was recommended that the present system of convening such conferences should be continued but that the various organisations should take steps to make them more representative of mill interests from all parts of India.

The Sub-Committee approved of the proposal of the Director for the purchase of a weft ring frame at a cost of Rs. 870 to be met from the balance under the capital grant for the Technological Laboratory.

The Sub-Committee approved of the proposal of the Director for investigating the effects of storage on the quality of certain Indian cottons, viz., Bengals, Khandesh, Punjab-American, Broach, Surat and Cambodia and recommended that either Kumptas or Farm Westerns should be added to the varieties selected by him.

The Sub-Committee considered a scheme submitted by the Director, Technological Laboratory, for the dissemination to the trade and industry of technical information from technical journals dealing with new developments in textile machinery and manufacturing processes. The Sub-Committee recommended the scheme for sanction but suggested that the information to be disseminated should be printed and not cyclostyled. The appointment of a typist to attend to this work under the supervision of one of the Physicists was approved, the scale of pay of the post to be fixed by the Standing Finance Sub-Committee.

The Sub-Committee considered a letter from the Bombay Millowners' Association suggesting that the Technological Laboratory should act as the official B. I. S. F. A. Testing House for tests on artificial silk yarns. As it was felt that the recognition of the Laboratory as the official Testing House for an important organisation in Europe would add to its prestige, and as the tests required by the B. I. S. F. A. could be easily carried out at the Technological Laboratory, the proposal should be accepted. It was also decided that tests on artificial silk yarns may be undertaken with an additional charge of 50 per cent. over the usual rates.

An interim report by the Director, Industrial Research Bureau, on the possibility of economic production of artificial silk in India by the Acetate process was considered. The Sub-Committee suggested the purchase of a pilot plant and recommended that a further sum of Rs. 11,000 might be sanctioned to raise the balance available under the grant for this investigation to Rs. 30,000. The Sub-Committee further recommended that detailed estimates for this investigation should be obtained and placed before the Standing Finance Sub-Committee for sanction. In view of the proposed investigations it was decided that the services of Dr. L. Thoria, Temporary Chemist, should be retained for a further period of one year.

APPENDIX VI.

SUBJECT 21.—*Extract from the Report of the Research Students Selection Sub-Committee.*

The Sub-Committee considered a suggestion from the Director of Agriculture, Sind, that the practice of awarding research scholarships only when there was a probability of the men trained thus being employed on the Committee's schemes or in Provincial Departments of Agriculture should be substituted by a system under which suitable graduates already in service would be selected for special courses of training with a view to their eventual appointment either in special posts to be created or in likely vacancies. The opinion of the Sub-Committee was that, in such cases, provincial Governments should take steps to train their own men.

The proposal for the award of a foreign training grant to Mr. H. A. Idnani, Cotton Supervisor, Indus Left Bank, Mirpurkhas, was not approved.

APPENDIX VII.

SUBJECT 31.—*Summary of the Report of the Agricultural Research Sub-Committee.*

I. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE
ON PROGRESS AND FINAL REPORTS ON SCHEMES.

Punjab Physiological Scheme and proposals for additional grant (No. 22).

The Sub-Committee first examined the report made by Dr. Mason who had stayed at Lyallpur for three and a half months—July to mid-October—and had thoroughly gone into the question.

The Sub-Committee considers that the report comes to some very definite and helpful conclusions. Dr. Mason has discovered that there are two kinds of bad opening in the Punjab. One of these which he classed nutritional bad opening is common in other countries as well and in this type of bad opening the seed is hard, *i.e.*, there is an embryo in it. In the other type of bad opening, which is peculiar to the Punjab, the seed is hollow, *i.e.*, the embryo has aborted and not developed. This, according to Dr. Mason, looks like the poisoning of the embryo, and other indications lead him to believe that Tirak is due to alkali poisoning probably mainly due to sodium carbonate enhanced by unfavourable climatic conditions. He has, therefore, suggested, amongst other things, an extensive soil study.

The Sub-Committee then considered Professor Dastur's report particularly his programme and suggests modifications in order to make it conform more closely to Dr. Mason's recommendations :—

- (1) Professor Dastur's No. 1 experiment is to include carbonates, bicarbonates, sulphates and chlorides of sodium, potassium, calcium and magnesium and is to be done on a field scale in small plots with sufficient replications.
- (2) It was pointed out by Dr. Burns and Mr. Stewart that Professor Dastur had misunderstood the directions of the last year's Sub-Committee regarding time sequence. The wordings of that Sub-Committee's instructions clearly indicated that what was required was a picture of the significance in which the various symptoms described by Professor Dastur occurred in the plant and not the relationship of the time of attack to the final yield. The Sub-Committee considers that the original instructions should be carried out and at the same time the additional work which Professor Dastur had done on the relationship between the time of attack and yield should be continued.
- (3) *Method to determine tannins.*—This is approved.
- (4) *Relative resistance of various cotton varieties to alkali.*—It is recommended that this item be omitted.
- (5) *Physical and chemical investigation of good and bad patches of soil.*—This is approved.
- (6) *Investigation of mineral uptake of plants growing in good and bad patches.*—This is approved.
- (7) The Sub-Committee recommends that an experiment with sufficient replication should be laid out in the field to contain the following terms :—
 - (i) Control,
 - (ii) Gypsum and flooding,
 - (iii) Green manure,
 - (iv) Artificial fertilisers, nitrogen, phosphorus and potassium together,
 - (v) Green manuring plus artificial fertilisers, and
 - (vi) Silt from channels.

Coming to the budget*, the Sub-Committee recommends that the additional staff sanctioned for the last two years should be continued and that the Rs. 10,000 asked for should be sanctioned. In connection with this, the Sub-Committee is of opinion that the soil survey to connect up soil conditions with cotton failure should be done as recommended by Dr. Mason on a larger scale and that this work should be under the control of Dr. Lander, Agricultural Chemist, Punjab, who has already

got in hand a scheme of soil survey into which it is believed this additional work could be fitted. It is suggested that a special apparatus for soil survey work as may be required may be got from the grant of Rs. 10,000 and the remainder may be utilised for microchemical work and work on the smaller experiments which will be done at Lyallpur.

The Sub-Committee recommends that a Resolution be passed by the full Committee expressing the Committee's appreciation of the readiness and generosity of the Empire Cotton Growing Corporation in giving the services of Dr. Mason to report on the scheme.

Final Report on Sind Physiological Scheme (No. 25).

The Sub-Committee considers :—

- (1) that in the editing of Mr. Dabral's report it would be necessary to go carefully into the facts as to the history of *Sind Sudhar* and the actual experimental work done on it by Mr. Dabral ;
- (2) that in connection with experiments on the time of sowing, the nature and significance of both lines of evidence, *i.e.*, those from growth studies and those from *ad hoc* field experiments, should be clearly indicated ;
- (3) that as regards the amount of water, inferences regarding duty should be indicated as such ; and
- (4) that with reference to the manurial experiments, the fact that significance was not obtained but that indications were sufficient on which to base recommendations should also be made clear.

The Report contains a great deal of very valuable data obtained over a long period of years. The Sub-Committee considers that these should be made available as quickly as possible and suggests that for this purpose editing and condensation should be done by some other Cotton Physiologist. It is suggested that Dr. Sankaran, who has worked under Mr. Ramanatha Ayyar as Cotton Assistant and has been trained under Dr. Blackman, should be invited to undertake this work. It is understood that Dr. Sankaran has at present taken a year's leave without pay and is working as a Research Scholar in the Madras University. It is also suggested that while doing this work he should be located at Indore with permission to visit Sind if required. He will of course maintain contact with Mr. Dabral as and when required. The obtaining of his services for this purpose will naturally be a matter for correspondence with himself and the Madras Government. The Sub-Committee considers that a lump honorarium for the whole work might be the best way of paying for it.

*Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces—
Proposal for appointment of Senior Assistant for writing up fresh detailed report.*

(No. 51.)

The Sub-Committee, after examination of the final report, considers that no further useful information other than that contained in the report can now be obtained and that detailed botanical description of types, which will be for the greater part rejected in the course of further selection work, does not warrant the additional expenditure demanded. The Sub-Committee considers, however, that the Economic Botanist (Cotton), United Provinces, in the course of further work, should maintain full botanical description of all types of cotton of botanical interest which he comes across in his selection work and that he should be requested to submit a revised report by the 31st May 1938 for consideration at the next monsoon meeting of the Committee.

*United Provinces C. 402 Seed Distribution and Extension Scheme—
Review of—(No. 26).*

The Sub-Committee is of the opinion that the area under C. 402 cotton is not likely to expand to the extent that would warrant the Committee to spend any further money on it when other schemes are being held up. This view of the Sub-Committee is supported by the resolution passed by the Upper India Chamber of Commerce at their meeting held on the 6th January 1938 which, in reference to this cotton, states " Experience has shown that this cotton is unlikely to expand to cover the tract. Field survey in 1937 has provided a number of local collections of great promise which should be the basis of future development in this area. The best strains should be selected and issued as early as possible.

Meanwhile, the development attained with C. 402 is to be maintained departmentally." In view of this and the inadvisability of pushing a cotton which is dependent on early canal water, the Sub-Committee recommends that this scheme should close down from the end of the current financial year.

II. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON SEED DISTRIBUTION AND EXTENSION SCHEMES.

(a) NEW SCHEMES.

Scheme for financing Seed Distribution in Sind (No. 29-(a)).

The Sub-Committee is of the opinion that any grant sanctioned in connection with such schemes should be subject to the principle that no capital expenditure should be put up by the Committee. With this reservation, the Sub-Committee approves of the scheme,* but recommends that it should not be put into operation until the Ginning and Pressing Rules as approved by the Local Sub-Committee are brought into force.

With regard to the estimates of expenditure under item B, C, and D at page 3 of the note on the subject, the Sub-Committee recommends that the Committee should bear the charges under C amounting to Rs. 45,000 and the Sind Government the expenditure under B and D amounting to Rs. 15,250. This recommendation is in accordance with the decision of the Committee in regard to the financing of new seed distribution and extension schemes.

Scheme for maintenance of nucleus of pure seed in Madras Presidency (No. 29-(b)).

The Sub-Committee recommends the scheme† for five years in the first instance at a cost of Rs. 610 per annum for the maintenance of a nucleus of pure seed of the varieties Co. 2, H-1 and K.P.T. 1. With regard to K.P.T. 1, the Sub-Committee notes that it does not come within the strict terms of the Indian Central Cotton Committee's original resolution regarding the maintenance of nuclei of seed of improved cottons in that the distribution of this improved variety has not been approved by the Committee. However, as this variety has now extended over 13,000 acres, the Sub-Committee recommends that it be included in the scheme.

(b) EXTENSION OF SCHEMES.

Khandesh (Jarila) Scheme (No. 27 (a)).

The Sub-Committee recommends that this scheme should be extended for another three months with effect from 1st March 1938 and that the Committee should agree to meet the full expenditure on it during this period amounting to about Rs. 3,000 on the understanding that the results of field trials, data concerning the spinning and commercial qualities of bulk samples and the decision of the Provincial Government regarding the share of expenditure to be borne by them will become known by the end of that period. The Sub-Committee further recommends that the results of field trials and spinning performance of this cotton should be circulated to the members of the Agricultural Research Sub-Committee and, if the reports are satisfactory, the Standing Finance Sub-Committee should be authorised to sanction the scheme for a period of one year subject to the acceptance by the Bombay Government to meet their share of expenditure in accordance with the proposal of the Director of Agriculture, Bombay. As the amounts in question are small, the Sub-Committee does not think that the division of receipts between the Committee and the Provincial Government should be insisted upon.

Madras Co.2 Scheme (No. 27-(b)).

The Sub-Committee believes that the scheme can now be worked on a self-supporting basis and that the question of the maintenance of purity should henceforward be looked after by Government. The Committee should agree to give the assistance of one Demonstrator and one *Mistry* to help the Society for a period of one year, after which no further assistance from the Committee should be required.

* Printed (page 64).

† Printed (page 67).

III. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON AGRICULTURAL RESEARCH SCHEMES.

(a) NEW SCHEMES.

Scheme for investigation into Black-headed Cricket in Sind (No. 28-(a)).*

The Sub-Committee considers that, in the first instance, research work should be conducted towards (a) identification of the pest, (b) life-history and seasonal behaviour and (c) estimation of damage caused. For this purpose, it recommends that the scheme should be sanctioned for three years subject to review at the end of one year, its subsequent continuance being dependent on the supply of satisfactory information regarding items (a), (b) and (c) of the report. Item 4 of the programme of work should be amended to read "Study of control measures." The grant from the Indian Central Cotton Committee should be further conditional upon the appointment of the entomological assistant already sanctioned by the Government of Sind who should collaborate in the work under the scheme. The Sub-Committee recommends that, during the year for which the scheme is sanctioned, work should be concentrated upon items 1, 2 and 3 of the suggested programme of work and that no work should be done on control measures, pending the result of the first year's investigations. The Sub-Committee desires to note with regard to the control measures suggested in the scheme that, in view of the shortage of organic material for compost manufacture, it would be inadvisable to recommend the burning of crop residues as a method of control.

Scheme for research on the improvement of Punjab-American 289F cotton (No. 28-(b)).

The Sub-Committee approves this proposal† with the proviso that roguing should be done at the time of the first picking so that the lint characters could be taken into account when doing roguing. The single plant selections and the study of the cross K.25 and 43F are approved.

Scheme‡ for interspecific hybridisation in cottons at Surat (No. 28-(d)).

Dr. Badami informed the Sub-Committee that Dr. Ruggles Gates would be very willing to undertake the cytological study of any material sent from such research and the Sub-Committee accordingly approved the cutting out of the cytological work and the travelling allowance of Rs. 200 that would go with it. The Sub-Committee recommends that the work on this scheme should be limited to items (1) to (6) of the programme of work. It suggests also that the work should be duplicated at Indore and that during its progress Mr. Hutchinson's advice should be obtained if possible. The scheme is otherwise approved.

Scheme for investigation of Heliothis obsoleta as a pest of cotton in the Central Provinces and Berar (No. 28-(e)).

The Sub-Committee considers that before any scheme of this nature, involving largely methods of biological control, is commenced, it is essential to determine whether the insect pest is the common *Heliothis obsoleta* which is a general pest on most crops in India or a special race of this species which is attacking cotton in particular in the Central Provinces. If assistance is needed for such an investigation, the Sub-Committee recommends that a sum not exceeding Rs. 3,000 should be sanctioned for a period of one year, details of expenditure to be submitted for the approval of the Standing Finance Sub-Committee but that no work on biological control should be done during this period. Until the identity of the pest is finally determined, the Sub-Committee recommends that consideration of the scheme should be deferred.

The Sub-Committee also desires to draw attention to the first finding of the special meeting of the Agricultural Research Sub-Committee in June 1934, which met to decide the general policy in regard to the Committee's research schemes, viz: "A complete and thorough summary of the up-to-date work done and the knowledge gained on the problem in question in other parts of the world should accompany each scheme." Such a summary does not accompany the scheme under consideration.

* Printed (page 69).

† Printed (page 73).

‡ Printed (page 75).

United Provinces Botanical Scheme (No. 28-(f)).

This is an attempt to restart on a suitable scale cotton work in the United Provinces where there are at the present moment only three cottons—A. 19, C. 520 and C. 402 of which A. 19 and C. 402 are not very satisfactory. Part I of this subject simply has to be done if the results of the surveys are to be carried to their logical conclusion. Part II is an attempt to try short and medium staple types against the local Pink Bollworm controlled areas and other cotton tracts of the province, to try longer staple varieties in similar tracts and to test selections from improved types in other provinces. The Sub-Committee approves of the scheme* and the budget.

*(b) EXTENSION OF SCHEMES.**Madras Herbaceum Scheme (No. 49).*

The Sub-Committee notes that this scheme has been running for 15 years and hence considers that to justify further financial help special technical or scientific reasons are necessary. The Sub-Committee is of opinion that such special technical or scientific reasons do not exist since 22 types have been evolved and all that is now required is district trials. The Sub-Committee was not entirely satisfied with the proposals for these district trials and does not recommend the extension of the scheme.

Madras Pemphres and Physiological Scheme (No. 56).

The Sub-Committee recommends the extension applied for for a period of two months at a cost of Rs. 4,100 to be met from savings under the scheme.

IV. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON
PROPOSED NEW MARKETING SCHEME.

Proposal for the better marketing of 1027 A.L.F. cotton of the Baroda State (No. 36).

The Sub-Committee recommends that the scheme† should be sanctioned for a period of three years subject to the condition that it should be reviewed annually and continued only, if satisfactory.

As regards the budget estimates for the scheme as given at page 4 of the note on the subject, the Sub-Committee considers that (1) in view of the Committee's accepted policy that land and buildings should be provided by the Government or State receiving grants from the Committee, the item of rent and rates should be borne by the Baroda Government, (2) furniture, for which a provision of Rs. 300 per year has been made, should be provided by the Baroda Government, (3) the estimate of Rs. 300 for printing should be reduced to Rs. 100, (4) the number of peons should be cut down from 2 to 1, and (5) the allowance proposed for the Marketing Officer should be termed "compensatory allowance" and reduced to Rs. 50 a month, i.e., 25 per cent. of his pay. This will reduce the total estimated cost of the scheme (spread over three years) from Rs. 10,296 to Rs. 6,726, to be met by the Committee.

V. GENERAL.

Growing of cotton in the United Provinces (No. 23).

The Sub-Committee approves of the policy suggested in Enclosure III for the improvement of cotton in the United Provinces, as arrived at by joint discussion between the Upper India Chamber of Commerce and the Director of Agriculture and considers that any scheme or schemes which would give effect to this should be favourably considered, as progress in this tract in the past has not been compatible with its importance.

Institute of Plant Industry, Indore—Budget for 1938-39 and programme of work (No. 30).

The Sub-Committee recommends a basic grant of Rs. 85,000 for the financial year 1938-39 for the Institute of Plant Industry, Indore, and a supplementary grant of Rs. 15,000. The Programme of work for 1938-39 is approved.

Cotton Policy in Gujarat (No. 37).

The Sub-Committee understands from the Director of Agriculture, Bombay, that the Hon'ble Minister is willing to consider the establishment of separate zones under the Cotton Transport Act and control in ginneries as an additional measure to prevent the mixing of 1027 A.L.F. with inferior cottons and that the Bombay Government have under consideration the application of the Cotton Ginning and

Pressing Factories (Amendment) Act which will give the machinery for control in ginneries. The Sub-Committee is further informed that the Director of Agriculture, Bombay, the Commissioner of Agriculture, Baroda, and some of their staff are meeting on the 24th instant to consider the details of the proposed zones.

Question of balancing the budget of the Committee (No. 44).

The Sub-Committee approves of the Resolution of the Standing Finance Sub-Committee with the addition that any criticism made by the Standing Finance Sub-Committee should be communicated to the Directors of Agriculture concerned so that they may have an opportunity of looking into it before the matter is discussed at the joint meeting of the Agricultural Research and Standing Finance Sub-Committees.

Scheme for improvement of Mathio cotton, Amreli and Jagudan (No. 50).

The question of travelling expenses as associated with the fulfilment of this scheme has been overlooked when the scheme was put up. It is necessary for the officer at Amreli to tour in Kathiawar for the purpose of collecting samples and other purposes and to keep in touch with his headquarter station at Viramgam, while the assistant at Jagudan has periodically to go to Viramgam and is called on at times to make surveys of Mehsana cottons.

The Sub-Committee accordingly recommends an extension of the grant in the present year by Rs. 200 and by Rs. 400 in future years on the basis of Rs. 350 per annum for Amreli and Rs. 50 per annum at Jagudan, making a total of Rs. 1,800 on the cost of the scheme. This expenditure on travelling allowance should, however, be met from within the sanctioned grant for the scheme.

Proposed extension of appointment of Technological Assistant, Sind (No. 60).

(a) The Sub-Committee is informed that the officer is fully employed and that he has been of considerable help to the Economic Botanist associated with cotton work in Sind for the past 2½ years. The Sub-Committee is of the opinion that provision of help of this kind is as fully justified in Sind as at other cotton breeding stations provided by the Indian Central Cotton Committee with an officer of this type. It therefore recommends the extension, if such financial help in cases of this kind is in accordance with the established policy of the Indian Central Cotton Committee.

(b) The Sub-Committee recommends the enhancement of the present sanctioned allotment for the first three years of this scheme by Rs. 890, as the deficit arises from causes of necessary character, either overlooked or unforeseen when the provision was first made.

Scheme for inclusion of Northern and Western cottons in the Dry Farming Scheme at Raichur—Revised programme of work for 1937-38.

The programme appears to be already in force. The Sub-Committee is of the opinion that :—

(1) In experiment I :—

- (a) the lay-out could be with advantage restricted to six replicas,
- (b) the blocks made more compact by having the plots side by side instead of end to end as on the plan,
- (c) in view of the experiment being one dealing simply with tillage, the plots might advisedly be larger. In this they suggest plots of 1/30th acre with 1/40th as the net portion on which the crop is measured. While not condemning the subsequent practice proposed in this experiment, the Sub-Committee feel that the experiment would be simplified without much loss of accuracy if after the initial variations in primary tillage country practice is adhered to.

(2) In experiment II also, the lay-out could, with advantage, be restricted to six replicas.

(3) In experiment III, the acre proposed for experiment might with advantage be divided into six strips of 1/6th acre each taken in the direction of the slope, three strips being provided with cross bunds and three being open. The lay-out adopted might be Bean's or randomized.

The Sub-Committee recommends that the lay-out of the blocks should be checked by the Statistician of the Imperial Council of Agricultural Research.

Scheme for financing seed distribution in Sind :

Compact Block of Long Stapled Cotton (225,000 bales).

Introduction.—Prior to the establishment of perennial irrigation under the Barrage in 1932, the average annual acreage under cotton was 300,000 acres and the average annual production in bales of 400 lbs. was 96,000. The acreage has now increased to 900,000 and the annual production is 500,000 bales. During the pre-Barrage period the principal variety grown was *Sind deshi* and the area under American Cotton was 25,640 acres only and the acreage now under American cotton is 550,000 acres out of a total area of 900,000. The variety of Sind-American cotton commonly cultivated is Sind 4F. During the last few years some undesirable types of cotton, viz., N.T. and K.T. types, have been imported from the Punjab and have been found to be more susceptible to jassid attack and Red Leaf disease. They are also found to be undesirable from trade point of view owing to deterioration of staple and admixture. Press Notes have been issued and much propaganda has been carried on by the Agricultural Department to discourage the cultivation of these types and to push the cultivation of the more suitable improved types, viz., *Sind Sudhar* and Sind 4F-98 described hereunder :—

2. **Improved long stapled varieties recommended by the Agricultural Department.**—The Agricultural Department in Sind have been carrying out extensive research work on the improvement of the cotton crop of Sind. As a result of this work improved varieties of American and Egyptian cottons have been evolved. Higher quality improved cotton strains, e.g., Sea Island 2-4 and Boss III-16, possess a staple length of $1\frac{1}{4}$ " to $1\frac{1}{2}$ " and are suitable for spinning 70 to 80 counts. The medium quality improved strain of Sind-American cotton 4F-98 has a staple length of $\frac{3}{4}$ " to $1\frac{1}{2}$ ", and is suitable for spinning 34 counts and the intermediate quality Sind-American type, viz., *Sind Sudhar*, has a staple length of 1" and is capable of spinning 40 counts. In point of yield of seed cotton per acre the high quality cotton (*Sind Sea Island* and *Boss III*) which are more susceptible to seasonal variations are capable of yielding 50/70 per cent. of the medium intermediate quality Sind American cottons, viz., Sind 4F-98 and *Sind Sudhar*. Both of these cottons are high yielding. The highest yields amounting to about 18 maunds (1500 lbs.) of seed cotton are obtained on the Government Farms, Oderolai and Padidan from *Sind Sudhar* cotton which is now the standard cotton on the Left Bank areas. These improved strains of Sind American cotton, viz., Sind 4F-98 and *Sind Sudhar*, appear to be suitable for current trade requirements and consequently a good premium in price is obtained by the growers of these cottons. Even now when the prices are low *Sind Sudhar* cotton fetches a premium of Rs. 5-8-0 to Rs. 6 per maund of lint (ginned cotton) on ordinary Sind 4F. Attention is invited to the steps taken by the Indian Central Cotton Committee to move the authorities in Sind for the establishment of a Compact Block of long stapled cotton in the Barrage areas of Sind and to keep that block pure and free from admixture of *desi* cotton. The whole district of Thar Parkar is now growing Sind American cotton and the area under *desi* cotton in that area is very small. American cotton cultivation has now extended to the neighbouring parts of Hyderabad and Nawabshah Districts. The improved varieties of long stapled cotton now occupy an area of about 80,000 acres only out of a total area of 550,000 acres under Sind American mostly ordinary Sind 4F. At the last meeting of the Indian Central Cotton Committee considerable discussion took place as to the reasons why more area was not being grown under long stapled '*Sind Sudhar*' cotton evolved by the Sind Agricultural Department. It was then pointed out that there was great need for financing seed distribution in Sind. As the result of these discussions a resolution was passed in which Rao Saheb K. I. Thadani, Director of Agriculture, Sind, was requested to prepare a considered scheme for financing seed distribution in Sind.

3. **Scheme of Seed Multiplication and its present position.**—The following plan has been adopted for multiplication of pure seed and maintenance of its purity by the Sind Agricultural Department :—

	Stage.	Area in acres.	Location.
1. Seed patch		45	Agricultural Research Station, Sakrand.
2. Increase block		450	Government Auxiliary Farms.
3. Field Scale Planting		4,500	'A' Class growers.
4. Village Groups		45,000	'B' Class growers.
5. General cultivation		450,000	..

The seed produce from the first stage, viz., Seed Patch at Sakrand, is grown on the Government Auxiliary Farms (2nd stage—Increase Block) and that of the 2nd stage on the lands of 'A' class growers (3rd stage—field scale plantings) and that of the 3rd stage on the lands of 'B' Class growers (4th stage). The Agricultural Department have an organisation to fully control the first three stages covering an area of 5,000 acres in order to keep the crop pure and free from admixture both in the field and in the ginning factory and also to distribute the seed so produced among the *zamindars* and farmers by means of village seed depots. This organisation consists of the staff of the Agricultural Department on Government Farms and the Cotton Extension staff of the Indian Central Cotton Committee and the Departmental Village Seed Depôts in charge of Depôt Kamgars of the Agricultural Department. The crop in all the first three stages is carefully inspected and all foreign and off type plants eradicated in order to keep the crop pure by means of 'roguing' parties. The produce of the first two stages is ginned in the Government Ginning Factory of the Agricultural Department specially provided by Sind Government for this purpose in order to maintain purity of seed. The produce of the 3rd stage, i.e., 'A' class registered growers who have their own ginning factories is ginned under the supervision of the Cotton Extension Staff in those factories although some portion is ginned in the Government Ginning Factory also. Thus pure seed is made available for planting an area of 45,000 acres on the lands of 'B' class growers (4th stage). There is, however, no organisation to deal with such a large produce of the 4th stage and there is no financing agency for the purchase of seed amounting to 150,000 to 200,000 maunds and its distribution, since a very great number of Village Seed Depôts would be required. The Cotton Extension Staff is enough to control the 4th stage, provided money could be found for 'roguing' of the area (45,000 acres) and for supervision at the time of ginning in order to keep the crop pure and if funds are available to purchase seed, gunny bags, storage, insurance, etc., and at the same time if a sufficient number of seed depôts for sale of seed are opened in all principal villages. The experience of the last few years in fully controlling the first three stages involving distribution of about 30,000 maunds of seed per year has clearly indicated that if funds are available pure seed of long stapled cotton for a compact block of 45,000 acres could be made available for general cultivation. As a rule there is no loss in seed transactions so far as purchase and sale prices are concerned. On the other hand there is always some margin of profit. But it must be confessed that there is some element of risk of some loss if there is abnormal fall in prices of the seed at the time of sale. This condition, however, has not occurred during the last three or four years. But any such risk must be taken. Hence in order to secure pure seed of improved cottons from the fourth stage (45,000 acres) for general cultivation, it is at first essential to have funds for the maintenance of the purity of this crop both in the field and in ginning factory and for opening about 150 village seed depôts for distributing 150,000 maunds of seed produce of this area and at the same time it is necessary to have financing arrangements for the purchase of seed and gunny bags.

4. Scheme for financing seed distribution.

Three important steps are to be taken :—

(1) Maintenance of purity of a block of 45,000 acres. The fields will be inspected and all off type and foreign plants removed, particularly *desi* cotton. The produce will be stored and ginned separately from other material, under the supervision of the Agricultural Department.

(2) Purchase of seed amounting to 150,000 maunds. The 'B' class growers (4th stage) as a rule sell their produce as seed cotton to the ginning factories and have no control over seed.

The ginning factories who purchase the produce are prepared to store and gin the produce separately from other stuff under the supervision of the Agricultural Department provided seed is purchased from them at some premium over the ordinary feeding seed. They are also prepared to give better price to the growers who have carried out the instructions of the Agricultural Department regarding maintenance of purity of the crop in the field and obtained a certificate of purity. Funds for purchase of seed will be required in the month of October.

(3) Distribution of seed. For this purpose it would be necessary to open 150 seed depôts in all principal villages so as to make the pure seed of long stapled cotton available for the small peasant at his very door. At present only the

enlightened *zamindars* get the improved seed from existing seed depôts but the bulk of the small farmers obtain their seed supply from the village *Bania* or the ginning factory. The seed will be sold on cash payment and all recoveries on account of sale of seed will be effected by end of May.

As already stated that as a rule there is no loss in seed transactions considering the purchase price and cost of grading and cleaning, etc. But the expenditure involved in maintenance of purity of the crop and seed distribution, i.e., opening of seed depôts cannot be recovered from the sale of seed but must be borne by those bodies who are interested in pure supply of long stapled cotton. The cost on this account will amount to about Re. 0-4-0 per bale of cotton so produced.

The estimates of expenditure and receipts are as follows :—

Expenditure.

<i>A. Seed and Bags.</i>		Rs.
1. Purchase of seed 150,000 maunds at 1-4-0 per maund	1,87,500	
2. Grading—Filling bags, storing, etc. at 0-2-0 per maund	18,750	
3. Purchase of 150,000 gunny bags at Rs. 30 per 100	45,000	
	2,51,250	
<i>B. Maintenance of purity in field (45,000 acres) and gin house (225,000 maunds kapas).</i>		Rs.
(a) Field purity—roguing work—the growers do the actual roguing under the supervision of the trained coolies who also assist in the work (200 men for 3 months at Rs. 20 p.m.)	12,000	
(b) Supervision in ginning—		
25 Superintendents at Rs. 25 p.m. for four months	2,500	
	14,500	
<i>C. Seed Depôts.</i>		
(a) Freight and cartage to seed depôts at Re. 0-2-0 per maund	18,750	
(b) Rent of depot (Rs. 10) and pay of salesman (Rs. 25) at Rs. 35 p.m. for 150 seed depôts for 5 months	26,250	
	45,000	
<i>D. Miscellaneous.</i>		
(a) Pay of Accountant for 8 months at Rs. 50	400	
(b) Miscellaneous Office Expenses	350	
	750	
Grand Total	3,11,500	

Receipts from sale of seed.

	Rs.
Sale of 150,000 maunds of seed at Re. 1-8-0 per maund	2,25,000
Sale of gunny bags	40,000
	2,65,000
Expenditure per year	3,11,500
Receipts per year	2,65,000
Rs. 46,500	

5. *Conclusion.* In order to provide 150,000 maunds of pure seed for cultivation of an area of 450,000 acres yielding 225,000 bales of long stapled cotton, it is necessary to spend Rs. 46,500 per annum which works out at less than four annas Re. (0-3-6) per bale. This cost includes maintenance of purity both in the field and in the gin house and also organisation for distribution in the villages, seed to be delivered at the door of the cultivator. It is therefore proposed that the Indian Central Cotton Committee may provide the necessary funds as under :—

	Rs.
(a) for maintenance of purity in the field and in the ginning factories	14,500
(b) purchase of seed and gunny bags	2,51,250
(c) distribution of seed in the villages	45,750
	3,11,500

The cash receipts amounting to Rs. 2,65,000 will be remitted to the Indian Central Cotton Committee within 8 months (October to May)—the balance of Rs. 46,500 will have been utilised towards the production of 225,000 bales of pure long stapled American cotton. This scheme may be sanctioned for 3 years in the first instance.

(Sd.) K. I. THADANI,

Director of Agriculture, Sind.

Copy of letter No. 6097 III/37-1 dated Fort St. George, the 4th January 1938, from the Secretary to the Government of Madras, Development Department, to the Secretary, Indian Central Cotton Committee, Bombay.

Agriculture—Cotton seed—Spread of—Maintenance of nucleus of seed—Application for grant.

I am directed to enclose a copy of letter D-1-No. 1893/37, dated 16th December 1937, from the Director of Agriculture, Madras, on the above subject and to request that the application submitted by the Cotton Specialist for the grant of Rs. 610 a year may be considered at the next meeting of the Committee.

Copy of letter from the Director of Agriculture, D. 1. No. 1893/37, dated 16th December 1937.

SUBJECT :—Cotton Seed—Spread of maintenance of seed—Application for grant from the Indian Central Cotton Committee.

The Indian Central Cotton Committee at its meeting held in August last passed a resolution to the effect that it would meet the cost of the maintenance of a nucleus of seed from all varieties of cotton, the spread of which has been approved by the Committee.

2. In consonance with this decision, I enclose herewith an application submitted by the Cotton Specialist for the grant of Rs. 610 per year for the raising of selfed seeds from an area of one acre in strain Co.2, and 2 acres each in H1. and K.P.T. 1 strains. The Cotton Specialist has omitted the strains evolved from Coconadas and Northernas as they are not being grown over large areas. The contribution asked for is to last as long as the three strains mentioned are continued to be grown over extensive areas. If these are supplanted by new strains, fresh proposals will be submitted modifying the details according to their productivity. I request Government to kindly forward the application to the Secretary, Indian Central Cotton Committee, for consideration at the next meeting.

Application for an annual grant for the maintenance of a pure seed nucleus in three varieties of cotton grown in the Madras Presidency.

Improved strains have been isolated in the commercial cotton varieties of Cambodia, Westerns, Tinnevellys, Northernns and Coconadas. Those from the last two are yet in the early stages of seed multiplication, while those evolved from the first three are under cultivation over fairly large areas as shown in the statement.

Name of Commercial Cotton.	Name of the strain.	Area under cultivation.
Cambodia	Co.2	200,000 acres.
Westerns	H.1	227,000 „
Karunganni	K.P.T. 1.	13,320 „

2. Of these the spread of the first two strains has been approved of by the Committee (*vide* seed distribution schemes for Co.2 and H.1. cottons sanctioned in August 1932). The third strain which was evolved recently was tested at the Koilpatti Agricultural Research Station and at several centres in the districts for more than three years. As its yield performance was found to be significantly better, it was decided to replace the two old strains of Karunganni (A. 10 and C.7) with a new strain named as K.P.T.1. The department is maintaining, on a small scale, seed farm for its seed multiplication. It contemplates approaching the Indian Central Cotton Committee for financial help to spread this new strain in the Tinnevellys and Salems tracts as quickly as possible. As a preparatory step it wishes to increase the quantity of selfed seeds available.

3. An estimate of the expenditure required to grow, and to self the flowers in one acre in the strain Co.2 and two acres in the two strains of H.1. and K.P.T.1 is furnished below. The larger area provided in the case of the latter two strains is due to their low yield of *kapas* per acre.

Details.	Strain Nos.			
	Co.2 (One acre.)	H.1 (Two acres.)	K.P.T.1 (Two acres.)	Total.
	Rs.	Rs.	Rs.	Rs.
Cultivation charges including cost of irrigation in the case of Co.2	77	30	38	145
Additional cost of picking and ginning	11	16	16	43
Selling charges including supervision	122	144	156	422
Total	210	190	210	610
Quantity of selfed seed expected	500 to 600 lb.	140 lb.	200 lb.	
Agricultural station at which the seeds will be produced.	Central Farm, Coimbatore.	Hagari.	Koilpatti.	
Officer responsible for producing the seed.	Superintendent, Central Farm.	Superintendent, Dry Farming Station, Hagari.	Superintendent, Koilpatti.	

The total annual grant required to maintain a nucleus of seed in the three strains will be Rs. 610.

Investigation of Black-Headed Cricket in Sind.

INTRODUCTORY :—A preliminary note on insect pests and plant diseases of cotton in Sind is herewith attached. An Assistant Entomologist is being appointed at Sakrand.

As the result of Sind Seed Distribution Scheme financed by the Indian Central Cotton Committee, it has been possible to introduce cultivation of cotton in the Barrage area on the Right Bank of the Indus where this cultivation was entirely unknown. The acreage has during the last few years increased to 60,000 acres. The areas which have shown considerable scope for development of cotton cultivation on the Right Bank are the Johi and Khirthar tracts situated at the foot of the hills. Both these tracts however have been recently threatened with the appearance of an insect known as the black-headed cricket.

This insect has a special liking for young cotton plants in the seedling stage but it is capable of devouring even cotton seed sown into the ground before it has a chance to germinate. It has caused wholesale destruction and complete failure of crop in many places especially when the seed is sown during the month of May which otherwise is the most optimum time of sowing cotton. This pest is getting severe every year and is extending far and wide in areas where it has not been hitherto known. Unless immediate steps are taken to check this pest, progress of cotton cultivation on the Right Bank of the Indus is likely to receive a great setback.

The following observations have been recorded during the course of last two years :

The young insects make their appearance in early April and are found to collect on oil-straw and waste residue left over after threshing of *rabi* crops particularly rapeseed. The insects become very active by beginning of May and very soon develop wings. They are nocturnal in habit and try to take shelter and hide in the cracks and crevices in the soil or under big clods during the day. Young seedlings under 10 days of age are affected the most, and large areas are devastated. They do not like wet conditions and disappear at the end of May. If cotton is sown in March, it escapes the attack of these insects but all cotton sown in April and May is liable to attack by this pest. This pest prefers stiff soil subject to cracking. It is therefore necessary to investigate on the following problems :—

(1) *Entomological*.—Dealing with life history; seasonal history—alternative food plant, breeding grounds, incidence of attack on different varieties. Trials of poisonous baits, burning of waste materials and residue of *rabi* crops left over in threshing yards where these insects collect before cotton is sown.

(2) *Agronomic and Physiological*.—This includes trial of all such measures as time of sowing, improved cultural and irrigational treatment, study of the weather and soil conditions, varietal trials.

Proposals.—The Department of Agriculture, Sind, will provide apparatus, laboratory accommodation and facilities for field experiment. The Indian Central Cotton Committee is being approached to provide funds for the appointment of one research assistant and one fieldman with an additional grant for T. A. and contingencies. This staff will work directly under Assistant Entomologist.

PROGRAMME OF WORK.

(1) Habits of insects—their food plants.

(2) Breeding grounds, comparative infestation of different crops—varieties of cottons.

(3) The association of the pest with weather, soil, and agricultural conditions, e.g., hot weather, rains, nature of soil, cultivation, time of sowing, irrigation, etc.

(4) Direct control measures, e.g., poisonous baits, burning of residue of *rabi* crops. The staff required and the expenditure involved are given below :—

September 1937 to March 1941.				
	1937-38.	1938-39.	1939-40.	1940-41.
(6 months).				
<i>Pay of officers.</i>				
(a) Research Assistant 150-10-180.	900	1,920	2,040	2,160
(b) Field Assistant 30-5-45 ..	180	420	480	540
Provident Fund at 1/12th ..	90	195	210	225
Leave salary	90	195	210	225
Contingencies	170	300	300	300
Travelling allowance	250	300	300	300
	1,680	3,330	3,540	3,750
1937-38 ..	1,680			
1938-39 ..	3,330			
1939-40 ..	3,540			
1940-41 ..	3,750			
	12,300			

Extract from Agricultural Leaflet No. 9 (1st Edition—July 1937) entitled "A Preliminary Note on Insect Pests and Plant Diseases affecting the cotton crop in Sind."

(6) *Black-headed Cricket* :—This pest has been known to occur in *Kacho* lands at the foot of the hills flooded with rain water and to attack *jowar* and cotton crops. It has a special liking for cotton seedlings and rapidly moves down to neighbouring land, where cotton is growing. Complaints about damage by this pest have been received from Shahdadhkote, Johi and Dadu Talukas. Young insects make their appearance in early April—by beginning of May, they become very active and very soon develop wings. They are nocturnal in habit and try to take shelter and hide in the cracks and crevices in the soil or under big clods during the day. Young seedlings under 10 days of age are affected the most, and large areas are devastated. They do not like wet conditions and disappear at the end of May. If cotton is sown in March, it escapes the attack of these insects but all cotton sown in April and May are liable to attack by this pest. This pest prefers stiff soil subject to cracking. Poisonous baits have been found useful in destroying this pest. All straw and other waste material left over after threshing oil-seed crops should be burnt as this insect collects over this material particularly rape-seed. All weeds and other undesirable growths should be removed round about the cotton fields.

SCHEME FOR INVESTIGATION OF BLACK-HEADED CRICKET IN SIND.

Summary of work done on Black-headed Cricket in places other than Sind.—The insect belongs to the family "Gryllidae." The pest is mostly known in the Kachhi and Sibi areas of Baluchistan under the name of "Tid" and it is frequently mentioned to have greatly damaged young crops of *Jowari*, Cotton, etc., in these areas. At Usto (8 miles from Khirthar), a Taluka in Nasirabad Sub-Division, District Sibi, this pest is reported to have attacked cotton crop considerably.

The crickets come mainly from the barren area on the Right Bank of Khirthar. The control measures adopted in British Baluchistan are given below :—

Trenches about 20 feet long, 2 feet wide and 2 feet deep are dug. These trenches are filled with water and kerosine sprinkled over the top. The swarms are directed to such trenches where they die. In front of the trenches and the bridge passages, baits are also scattered. Their composition is as under :—

- | | |
|-------------------------|-----------|
| (1) Wheat bran | 20 seers. |
| (2) Sodium Fluosilicate | 1 seer. |
| (3) Treacle | 2 seers. |

Sufficient water should be added to make them like easily crumbling "Ladus." The crickets relish these baits very much. After eating they head for water (in trenches) sprinkled with kerosine, where they easily die.

This insect is reported as injurious to crops and has been found in some number in parts of the Punjab. It is a surface burrowing species living in the fields and not making deep burrows. (Reference page 104 of Indian Insect Life, by H. Maxwell Lefroy.)

Possibility of any Indian University taking up this problem.—So far as this Department is aware there is no Indian University which has the staff or facilities suitable to undertake work on the black-headed cricket problem on the lines contemplated in the Scheme.

Copy of letter No. 330-E, dated the 16th November 1937, from the Director of Agriculture, Sind, Karachi, to the Secretary, Indian Central Cotton Committee, Bombay.

With reference to your letter No. 7550, dated the 23rd August 1937, I have the honour to state that before submitting the scheme to the Committee, I had consulted R. B. Ramchandra Rao, copy of his letter dated 23rd June 1937 is attached herewith. I had also studied the work done by Baluchistan Department of Agriculture. Owing to my absence from the meeting of the Research Sub-Committee, such details could not be explained to the members. I have now, at the instance of the Committee, again consulted R. B. Ramchandra Rao and Dr. Hemsingh Puruthi, copies of their letters are attached herewith. The following suggestions regarding finding out the status and habits of the black-headed cricket as a pest have been made :—

(a) The insect has not been properly identified with regard to the species and it is necessary to send representative collections from the affected parts at different times of the season whenever found to the Imperial Entomologist, New Delhi, and also to the Director, Imperial Institute of Entomology, London.

(b) *Habits.*—In connection with control work it is necessary to find out where this pest lives or hides during cold weather and whether it would be possible to control its numbers in this stage.

(c) *Egg Laying.*—Particulars should be investigated into.

(d) *Crop Rotation.*—Cruciferous crops, e.g., rape-seed, etc., which are important alternative food plants, should be eliminated out of crop rotation.

(e) *Barriers.*—As this pest only hops in its younger stages, erection of suitable barriers around valuable crops may afford additional protection.

(f) *Influence of meteorological conditions.*—This study can only be done if the Officer-in-Charge has thorough acquaintance with modern methods of ecological technique.

Both these experts have suggested revision of the proposals submitted by me for the staff and the expenditure required. R. B. Ramchandra Rao suggests provision of one more fieldman and a larger amount for contingencies and Dr. Puruthi is doubtful if an Entomological Assistant of the grade proposed will have adequate qualifications, especially knowledge of modern methods of ecological technique for undertaking such a problem. He also suggests increase in contingencies from Rs. 300 to Rs. 1,000. I, therefore, submit revised estimates as under :—

(Budget Estimates as passed by the Committee.)

<i>Pay of Officers.</i>		1938.	1939.	1940.	Total.
		Rs.	Rs.	Rs.	Rs.
(a) Entomological Assistant in charge of the scheme Rs. 200—10—300 ..		2,400	2,520	2,640	7,560
Leave Salary		200	210	220	630
(b) Two Field Assistants Rs. 30—5—45		720	840	960	2,520
Leave Salary		60	70	80	210
Contingencies		740	720	700	2,160
Travelling allowance		300	300	300	900
Total ..		4,420	4,660	4,900	13,980

I have now to request the Committee to consider the scheme for investigation into the black-headed cricket in Sind and to sanction it at a very early date. In this connection, I may point out that the Sind Cotton Committee, which met on the 21st October 1937 had resolved that the pest was threatening to wipe out cotton cultivation on the Right Bank of the river Indus, and that the Indian Central Cotton Committee be requested to sanction the scheme at its earliest convenience so that another season is not lost.

Copy of D. O. No. 1272, dated the 23rd July 1937, from the Locust Research Entomologist (R. B. Ramchandra Rao), Karachi, to Rao Sahab K. I. Thadani, Director of Agriculture, Sind, Karachi.

I thank you for your D. C. No. 330/37 received this morning (23rd July 1937) enclosing a copy of the scheme for the investigation of the "Black-headed Cricket."

I have to say that I have done very little work on this cricket. But in the course of the studies of the past records of Locusts in Baluchistan, one could see that this pest is well-known in the Kachhi and Sibi areas of Baluchistan, under the name of "Tid." It is frequently mentioned to have greatly damaged young crops of *Juari*, cotton, etc., in these areas.

I understand that a good deal of work has been done in the Nasirabad Taluq of Sibi district in Baluchistan during the last 2 or 3 years in regard to the control of this pest in cotton fields, reliance being placed mainly on poison-baits, which seem to have given excellent results.

I should suggest, therefore, that you might get into touch with Mr. Mustafa, Agricultural Officer, in Baluchistan on this subject.

Copy of letter No. R-33/37/1586, dated the 11th September 1937, from R. B. Ramchandra Rao, Locust Research Entomologist, to the Imperial Council of Agricultural Research, Karachi, addressed to the Director of Agriculture, Sind.

I have the honour to acknowledge receipt of your letter No. 330-E/1937, dated the 31st August 1937, enclosing a scheme of investigation in connection with the study and control of the black-headed cricket in Sind. I regret delay in replying due to my absence from Karachi on a tour in the Rajputana Desert areas.

I should think the scheme forwarded by you is, as far as I can judge, from the data available, quite sound, but I should like to make the following remarks:—

(1) *The Identity of the Black-headed Cricket.*—In October 1931, while I was stationed at Quetta, a few specimens of the cricket were sent to me by the Sibi authorities, purporting to be the "Tid" found injurious to cotton, etc., in Jhatpat. Some samples of these insects were sent to the Imperial Institute of Entomology, London, in 1932 and were then identified as "*Gryllobates sigillatus*." Some other specimens of "Tid" recently collected by my Assistant Mr. Desraj Bhatia in the Sibi area were also sent to the Imperial Institute of Entomology, London, in July last. These were returned identified as "*Gryllulus domesticus*"—the common house-cricket, with the remark that this species, according to Dr. Uvarov, is known to "live in the fields in warm countries in summer and only goes into houses in cold weather."

I should suggest that a good series of specimens, whether pinned or in spirit, be sent to the Director, Imperial Institute of Entomology, London, for determination so that the identity of the species concerned may be authentically confirmed.

(2) *Habits of the Cricket.*—It is seen that the cricket is active only during the hotter months. It would be of great value in regard to control work to find out where it lives or hides during the cold months and whether it would be possible to control its numbers in this stage.

(3) *Egg Laying.*—Particulars of egg-laying should also be studied first, so as to find out where the eggs are laid and when, and whether there is any diapause in the egg-stage in the winter months.

(4) I should also venture to suggest that provision should be made for one more Fieldman, at least for part of the year.

Copy of letter No. 983, dated the 6th October 1937, from Dr. Puruthi, Imperial Entomologist, Imperial Agricultural Research Institute, New Delhi, addressed to the Director of Agriculture, Sind.

With reference to your letter No. 330-E of 1937, dated 31st August 1937, I have the honour to state that this department received several reports of attack by a Gryllid to cotton, *jowari*, etc., in Sind, Western Punjab, etc., about 30 years ago. The species concerned was *Gryllus Viator Kirby* (*Gryllades melanocephalus* (Serv.)). Again in 1933 a report was received from Sind of "Tids" damaging cotton seedlings and the specimens of pest sent to us were *G. configaratus* and *G. liniceps*. For the last two years, as you are aware, some "Tids" (not yet specifically identified) have been doing serious damage to cotton in the Sibi district in Baluchistan. The first item in the programme of work should, therefore, be the determination of the exact species of the pest concerned. For this purpose a representative collection from various parts has to be made at different times of the season. I will be able to help you in the identification of the specimens collected.

Your observations as well as those made in Baluchistan indicate that rape and other cruciferae plants are important alternate food plants of the pest in the spring. I note that you have included in the programme of work "burning of waste materials and residue of *rabi* crops before cotton is sown." If any *rabi* crop is a favourite food plant of the pest, the burning of its residue will not help matters very much as the pest will have already increased in numbers before its harvest. Such a crop will have to be eliminated out of crop rotation if cotton is to be saved.

A similar pest (*Gryllus assimilis*) attacks cotton in Louisiana, California, etc. In South and North Dakota wheat, barley, etc., are also attacked. It has been thoroughly investigated in recent years (see *Jl. Econ. Ent.* Vol. XIX, XXIV & XXVII). Elimination of alternate food plants, clean cultivation and use of poisonous baits containing sodium fluosilicate have proved very useful control measures. Recently in Baluchistan also sodium fluosilicate baits have proved effective.

As the pest does not fly but only hops in its younger stages, therefore, erection of suitable barriers around valuable crops should also afford additional protection.

The study of the influence of meteorological conditions on the incidence of the pest requires thorough acquaintance with modern methods of ecological technique. I am, therefore, very doubtful if an entomological assistant of the grade proposed by you will have adequate qualifications for undertaking such a problem. I would suggest that the Assistant Entomologist proposed to be recruited by you should himself do the work instead of supervising it, one or two assistants may help him in his field and laboratory work.

The grant proposed under contingencies seem to be very inadequate, especially if an ecological study of the pest is to be undertaken. Some expensive apparatus, rearing cages, etc., will have to be purchased. This grant in my opinion should not be less than Rs. 1,000 per annum.

I shall be glad to furnish any further information if called for and shall be glad if you let me have a copy of the revised scheme when submitted.

Copy of letter No. 91/63-1213, dated the 17th November 1937, from the Director of Agriculture, Punjab, to the Secretary, Indian Central Cotton Committee, Bombay.

A scheme for research on the improvement of Punjab American 289F cotton.

With reference to the correspondence ending with your letter No. 7600, dated the 25th August 1937, I have the honour to forward herewith a fresh scheme in substitution of the one which was rejected on technical grounds by the Indian Central Cotton Committee at their meeting held in August 1937.

2. As has been explained in the scheme the proposals now formulated are not only to maintain the purity of the existing strain of 289F/K25 which is valuable because of its high ginning qualities, but to evolve from it and its parent 289F an improved strain which retains its good features but does not possess its drawback in respect of jassid susceptibility.

As Lyallpur is not a suitable centre for work on 289F cotton, the British Cotton Growing Association has offered to give full facilities (land, labour, implements, etc.) for the establishment of a sub-station on their estate at Khanewal. The staff for the scheme will work under the Cotton Research Botanist.

3. The total cost of the scheme spread over a period of 5 years is estimated at Rs. 14,000 round, *vide* details embodied in the scheme, and it is requested that this sum be provided. The Punjab Provincial Cotton Committee considered the scheme in its meeting held on 30th October 1937 and unanimously recommended it to the Indian Central Cotton Committee for acceptance and provision of funds.

A SCHEME FOR RESEARCH ON THE IMPROVEMENT OF PUNJAB AMERICAN 289F COTTON.

Introductory.—Punjab American 289F cotton was evolved in the Botanical Section of the Punjab Department of Agriculture and was tried on a large scale for the first time in 1921 at the British Cotton Growing Association Farm, Khanewal. There it proved an unqualified success and since then it has been grown on a very large area in parts of the Lower Bari Doab Colony. From there it spread to Sind where a selection of this cotton, Sind *Sudhar*, is being grown very extensively.

289F is peculiarly suited to the tract known as the Lower Bari Doab Colony, and efforts to introduce it in other Canal Colonies have failed invariably. Outside its special habitat this cotton fails to give a profitable yield.

For want of proper facilities the Punjab Department of Agriculture have not been able to pay as much attention to this cotton as its importance deserved. Under the Punjab Botanical Research Scheme, a policy of roguing about 200 acres of this cotton at the Convillepur Farm, Montgomery, was pursued for some years. A certain degree of purity was imparted to the crop, but no sustained work on its improvement has been undertaken so far.

The British Cotton Growing Association, Punjab (Limited), made certain selections from this cotton some years ago. Their efforts were successful in improving the ginning percentage. The ginning outturn of their selection is about 35 per cent. as compared to about 29 per cent. for the ordinary 289F. There is, however, one serious drawback in this new selection. It is definitely susceptible to jassids. In spite of this defect this new strain has found favour and its cultivation has extended every year; the chief reason for this extension being the premium obtained because of the high ginning outturn.

289F and its sub-strains have never undergone any selection from the time they assumed importance as commercial cottons, nor have any special precautions ever been taken to keep them pure either in the field or in the ginnery. An examination of these cottons, therefore, reveals a fair amount of impurity.

289F is very well known to the trade in India and abroad and the area under this cotton and its sub-strain is about 100,000 acres each year. It, therefore, appears necessary that early steps should be taken to preserve the purity of the cotton and try to evolve new jassid resistant strains from it. This work, however, will have to be done at Khanewal as Lyallpur does not suit this cotton.

Work will be started on the following lines :—

(i) *Roguing Work.*—One hundred to two hundred acres will be rogued every year to improve the purity of the existing strain. The produce from this area will be ginned under expert supervision and the seed sown in a separate block of the British Cotton Growing Association Farm. In succeeding years this operation will be repeated and if the work is carried out carefully, three years should suffice to render the crop reasonably pure.

(ii) *Single Plant Selection.*—In the first year, a large number of plants which appear to be better than others will be selected and the produce of each plant picked in single bags. This produce will be examined for lint and seed characters and the seed of the most desirable plants will be retained for sowing.

The single plant progeny rows will be examined in detail in the field and selections made again. At this stage it will be necessary to self-fertilise the flowers. The produce of these plants will again be examined in the laboratory and further selections made. This process will be repeated for at least 3 or 4 years by which time it is expected that progeny rows of sufficient merit will be isolated. Another year or two will have to be devoted to field tests. Thus in all not less than 5 years' work is required to get a pure strain or a somewhat improved strain.

In order to save one year and to provide material for work at the commencement of the scheme in the summer of 1938, preliminary work has been done by the present staff of the Punjab Botanical Research Scheme. 104 acres have been thoroughly rogued. This area will provide at least 600 maunds of seed which will be sufficient to sow the entire area at the British Cotton Growing Association Farm, Khanewal, in 1938. A large number of single plant selections has also been made.

289F is very sparsely hairy and in order to introduce hairiness it has been crossed with 43F. Back crossing with 289F next year will give good material for selection for high ginning outturn.

The British Cotton Growing Association will provide land, labour, implements and it is requested that the Indian Central Cotton Committee may provide funds for meeting the pay of the staff, their travelling allowance and other contingencies. The expenditure involved is shown in the subjoined table :—

	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	Rs.	Rs.	Rs.	Rs.	Rs.
One Agricultural Assistant at Rs. 80-7-150/7-185-8-225 with about 3 years' service whose pay will be Rs. 101 on 1st April 1938 and the date of his next increment will be 10th August 1938	1,158	1,343	1,427	1,511	1,595
Two Plant Observers at Rs. 20-1-30	440	502	526	550	574
Travelling Allowance	100	100	100	100	100
Contingencies	550	500	500	500	500
Casual labour for sowing operations and picking single plants, etc., etc.	250	250	250	250	250
	2,498	2,695	2,803	2,911	3,019

GRAND TOTAL .. Rs. 13,928

PROGRAMME OF WORK.

The main lines of the programme of work have already been indicated above. It will consist of :—

- (i) Roguing about 100 acres each year.
- (ii) Single Plant Selection.
- (iii) One cross between the new selection (K.T. 25) and 43F will be studied.

Scheme of Interspecific Hybridization in Cottons at Surat.

1. *Historical.*—To quote Burt (Agricultural Journal of India, Vol. XXII, iii, P. 217) "the possibility of obtaining a hybrid between the American and Asiatic types of cotton has always attracted cotton workers, mainly because the maximum length of staple of any known Asiatic type is so much below that of Egyptian and Sea-Island cottons which belong to the American group"; and attempts have been made by various workers since the end of the last century in this direction. But beginning from Zaitzev in the last decade Desai, Nakatomi, Longley, Patel, Kanash, Harland and Feng have reported a few successful hybrids, which could be secured with difficulty and were sterile. But Kanash, Harland and Nakatomi have secured success by backcrossing. Harland has been able to transfer the colour gene from Asiatics to *G. barbadense* background by four repeated backcrossings and get fully self-fertile form. Russian workers also have been able to get a variety of forms, combining various characters of the parents, some with quite new combinations of characters, and particularly an interesting hybrid has been obtained (*G. barbadense* x *G. herbaceum*) x *G. barbadense* distinguished by great fertility and capable of crossing with *G. barbadense* and *G. arboreum* and *G. hirsutum*. It affords a means, therefore, of combining the characters of *G. herbaceum* with all these species. They place great hope in interspecific hybridization which offers the possibility of producing forms with increased chromosome numbers in cottons also, as they have

secured such good results in other crops, *e.g.*, in Wheat x Rye, *Nicotiana* hybrids, etc. Thus it has been shown, by these results that there is a possibility of transferring a gene, or genes, or part of chromosomes from one group to the other, and also getting fully fertile forms capable of crossing with both the groups.

India is growing mostly Asiatic types of cottons, which are known for their lower spinning values, as compared to American cottons. With the advent of the East India Company, interested in the cultivation of superior types of cottons, attempts were made to grow foreign types of better quality, but all the attempts in various parts of the country failed, except the remnants of that work we see in Punjab-American, Dharwar-American, and Cambodia cottons now grown in Punjab, Dharwar and Madras, respectively. The foreign types could not be acclimatised due to lack of certain characters such as particular type of hairiness and particular root system found in hardy Asiatic cottons, which help in tiding over certain seasonal conditions and insect attacks and naturally for combining these characters hybridisation between these two groups is suggested. Attempts have been made in the past but with little success, Desai and Patel reported one successful hybrid each, which later on died by accidents. Since then four hybrids have been secured at Broach, and two backcrossed progeny plants are also grown there. It is only at Surat that a larger success has been obtained and some progress could be achieved.

2. *Importance of the Hybridisation Work for Gujarat.*—In India, the Surat cotton, *viz.*, 1027 A.L.F., has the highest water mark quality, particularly as to the length and feel of lint combined with the high ginning of lint from 34 to 39 per cent. There is no other Asiatic type known with the above economical characters. The highest spinning value yet attained in any of the types of Indian cottons is 40's, and we have strains spinning to this limit. From the general experience it is believed that the highest spinning value of Asiatic cottons can only be increased if certain fibre characters of the exotics can be combined into Asiatic cottons. This is particularly the case as direct acclimatisation has failed as already stated above. This can only be done if the "unbridgeable gulf" between these two groups could be bridged, *i.e.*, if the fully self-fertile plant from such a hybrid be obtained or a plant be obtained which can be easily crossed with any Asiatic cotton, resulting in the combination of any economic character including the agronomic characters required here. Besides the combining of certain desirable fibre characters of the exotics with our cottons, these exotics have certain characters such as Indian *Fusarium* wilt immunity, and Indian cotton *Stenosis* immunity and a short vegetative growth period which are of immense importance to Indian cottons. In short, ONE CAN SAY IN NON-TECHNICAL LANGUAGE THAT THE INDIAN COTTONS AND PARTICULARLY THE SURAT COTTONS ARE LIKELY TO BE ENRICHED IMMENSELY IF THE CHROMOSOMES CAN BE DOUBLED OR INCREASED RESULTING IN THE INCREASE OF EVERY PART OF THE PLANT SUCH AS SIZE OF BOLL, SIZE OF SEED, LENGTH OF FIBRE, FINENESS OF FIBRE, COMBINED WITH STRENGTH, *i.e.*, THE CHARACTERS FOUND GENERALLY IN DOUBLE CHROMOSOMES EXOTICS.

What has been above stated definitely indicates that the main hope and item of work of revolutionising the Indian cotton growing industry and particularly the Surat one, lies in hybridisation and creation of a self-fertile plant having desirable combination of characters or in the building up of a plant which can be in the beginning easily crossed with the Asiatic cottons and thus finally evolving by breeding the desired type.

3. *The building up of such a plant would be also useful for the tracts in which the American cottons are grown at present.*—In these tracts, these exotics at least in some seasons are somewhat risky (*e.g.*, Punjab-American cottons) which defect can also be remedied by having the combination of good characters of both. From the foreign work it seems likely that such a work of international importance would take a long period.

4. *Work at Surat.*—The work was started in 1932, and Dr. Burns, the then Director of Agriculture, expressed his desire to have a fertile hybrid between the Indian and American types as early as possible, so as to get beyond the comparative narrow limits set up by selection and crossing within either group and it was taken up more enthusiastically.

First two years' work did not give any successful hybrids but from the large amount of crossing work undertaken in 1934-35 and 1935-36 20 hybrids (10 from each season) between these two groups have been secured.

All these are maintained as ratoons and further propagated by cuttings and such 20 successful cuttings are being grown and many more are being raised. It will be noted that out of these 20 hybrids 18 are from American types used as mother parents and 2 are from Indian types used as mother parents, which have never been successfully obtained in India hitherto.

5. *Inducing Fertility Experiments.*

(a) By physical means :—

Attempts such as callus formation by physical injury to branches and main stem of the hybrids were made without any success.

(b) By backcrossing :—

All these hybrids are sterile, vigorous, and gave profuse flowering. Attempts were made to induce fertility by backcrossing both the ways, by using their pollens on parents or using the pollens of the parents on the hybrids. The attempts to use the parent with lesser number of chromosomes, *i.e.*, Indian parent both ways, failed but some success has been obtained by using the pollens of the American parents, *i.e.*, the parent with higher number of chromosomes on the hybrids.

In 1935-36, 3 bolls each with one seed were obtained from 2 hybrids, but the seeds failed to germinate. Out of these 3 bolls, 2 were from the hybrid No. 2-4 referred to below, giving 0.16 per cent. success.

In 1936-37, 38 bolls were obtained from 9 hybrids with 41 seeds (3 bolls giving 2 seeds each) out of which 20 seeds have germinated.

Hybrid No. 2-4 specially has shown good fertility by giving 24 bolls with 27 seeds and has shown an increase in fertility to 0.49 per cent.

In order to achieve the object, almost all the flowers opening on the hybrids, cuttings or backcrossed progeny plants and ratoons were backcrossed to the parent or their pollen utilised in pollination on other types and these shall have to be continued year after year increasing in geometrical proportion. The number of flowers opening on the hybrids is beyond conception and there is tendency of increase in it from year to year in ratoons, and more so due to sterility. This has to be followed up throughout the flowering season, *viz.*, from October to March, for nearly six months.

It is also essential that no sort of insect attack should come in the way of having or increasing the fertility; thus measures for preventing and controlling the insect attack of sucking insects or boll-worms have to be devised and rigorously adopted.

(c) Over and above these methods chemical treatments also require to be tested and tried.

6. *Insufficiency of the present hybrids and necessity of further hybridization.*—It is conceived that if there be a large number of interspecific hybrids between various parents having different genetic constitution, one may catch a plant with better fertility as is found in hybrid No. 2-4 and with this end in view one has to try to get as many hybrids as possible between various types.

The present stock of hybrids are from the Punjab and Dharwar American types and 2 from Maarad Egyptian type and as such are apparently not very good for getting good results for fibre qualities, *i.e.*, not much above 40's spinning and it is considered that the best types of Sea-Island, Egyptian and American types should be utilised for getting new hybrids with Asiatic cottons. The percentage of successful crossed bolls is very very limited and has to be continued throughout the flowering season. This work alone takes nearly half the day in the whole flowering season. After getting these crossed bolls or backcrossed bolls from hybrids, seeds have to be raised in pots for about 2 months and very carefully planted in the field in the monsoon.

7. *Present Position of the Staff in the Work.*—Till now a Graduate Assistant is handling this work over and above the other breeding work with the help of an insect setter kindly spared by the Deputy Director of Agriculture, Gujarat, Surat, for the work.

This year due to the successful raising of 19 backcross progeny plants which will have to be maintained along with the hybrids as ratoons and as is now expected that fertility will increase year by year, the work would be expanding and to intensify and extend it as outlined, a whole time Assistant with the help of the counters is essential for the work.

Such a work is in progress in Russia and here is the first opportunity to take it up in India.

It has been amply shown above that the work shows great potentiality which will not only benefit the small tract of Surat but other tracts also.

The work requires a small staff and the genetic and cytological part of the work apart from economic results is sure to give most important results of academic importance.

Thus it is proper that such a small scheme of fundamental importance should be subsidised by an all-India body like the Indian Central Cotton Committee.

The scheme is put up for five years beginning from 1st April 1938. The actual details of expense are given in the budget estimate.

*Budget estimate of expenditure for a period of five years from 1st April 1938.
(Chargeable to the Indian Central Cotton Committee.)*

S. No.	Name of the Budget Head.	Grade of pay.	Pay on 1-4-38.	1st 1938-39.	2nd 1939-40.	3rd 1940-41.	4th 1941-42.	5th 1942-43.	Total.	Remarks.
1	<i>Pay of Establishment—</i>									
	1. Agricultural Overseer	110-8-150	126	1,512	1,608	1,704	1,800	1,800	8,424	a
	2. Counter	20-1-30	20	240	252	264	276	288	1,320	
	Total..	..	..	1,752	1,860	1,968	2,076	2,088	9,744	
2	<i>Leave salary—</i>									
	1. Agricultural Overseer.	..	..	..	..	..	..	..	..	b
	2. Counter	..	..	20	20	20	20	20	100	
	Total..	..	..	20	20	20	20	20	100	
3	<i>Committee's Provident Fund</i>	..	..	20	21	22	23	24	110	
4	<i>Allowances & Honoraria—Travelling Allowance.</i>	..	..	200	200	200	200	200	1,000	
5	<i>Contingencies—</i>									
	Cultivation & Labour Charges	..	..	340	340	460	460	460	2,060	c
	Office Expenses & Miscellaneous	..	..	200	250	300	350	400	1,500	d
	Total..	..	..	540	590	760	810	860	3,560	
	Grand Total..	..	..	2,532	2,691	2,970	3,129	3,192	14,514	
	<i>Non-Recurring Grant—</i>									
	For one Glass-House	..	..	..	..	..	..	..	500	
	Less item 4 disallowed by the Committee ..								15,014	
									1,000	
									14,014	

Remarks—(a) It is proposed to depute Mr. K. C. Amin, who is in charge of the work since the beginning, assuming that he will be confirmed before the scheme begins. His pay in the old 3rd Grade will be Rs. 120, on 1-4-38 (beginning from 28-9-37) and hence the starting pay in the scheme is put at Rs. 126, in the new 2nd Grade scale.

(b) The Agricultural Overseer will be deputed from the Department.

(c) It is proposed to engage two temporary counters for the first two years and three counters for the next three for six months for helping in crossing work, and will include wages of other labourers.

(d) Chemicals, Insecticides, Manures, Stationery Postage, etc., Sundry expenses will be met within this grant.

8. *Aim of Work.*—To get a fully fertile hybrid between exotics and Indian cottons, i.e., between the two groups, combining various characters of both, particularly the good staple length of the exotics and the factors of hardiness and suitability to Indian climate of the Asiatic.

Plan of Work.—The work will be continued on the existing hybrids to begin with (as outlined in 5 above) and the best types of Egyptian, Sea-Island and American cottons will be grown at Surat with a view to produce as many hybrids as possible with them using Asiatic cottons particularly Surat herbaceum as one parent.

This will give a varied combination of various types and superior material for work and a potential centre of creation of new forms.

PROGRAMME OF WORK.

Field Work.

(1) Maintenance of the present 20 hybrids with their 20 cuttings and their progeny for further work.

(2) Collection of best types of exotics and trying to have fresh interspecific hybrids with them as many as possible, so as to have many combinations to achieve the object of fertility with better factors for quality. This will improve the work as far as the factors for quality are concerned which are rather lacking in the present stock.

(3) Raising of plants in pots under protected conditions and transplanting in the field.

(4) Vegetative propagation of the hybrids and their progeny for extensive work and for guarding against accidents to the original plants maintained as ratoons.

(5) Inducing fertility in the sterile hybrids and their sterile or semi-sterile progeny of various generations :—

(A) By artificial hybridization.

Backcrossing with the parents on a very extensive scale particularly with higher number chromosome parent and with such other types of different cottons likely to lead to fertility (e.g., Foreign wild cottons).

(B) By Physical and Chemical methods known to induce fertility.

(a) Callus formation.

(b) Physical injury to plants by cutting, ringing, etc.

(c) Treatment with anaesthetics like chloroform to growing buds, etc.

(d) X-raying of buds and flowers.

(e) Cutting up the style and pollination afterwards.

(f) Bud pollination, etc.

(6) Study of the fertility of the progeny of the hybrids from generation to generation and when several years old as ratoons.

(7) Genetical study :—

Study of inheritance of various characters in the hybrids and their progeny.

LABORATORY WORK.

This will be taken up after certain seasons and if there be spare time and material.

Work will be mainly cytological.

(1) *Study of chromosomes.*—Number of chromosomes, physical shape and size, study of meiotic division, chiasma formation, pairing, etc., so as to know the relation between the chromosomes of the two groups and possibility of solving the incompatibility.

(2) *Study of sterility.*—This will confine to the other factors that might be causing hindrance in getting fertility, other than chromosome incompatibility as may come up in the trials of various methods of inducing fertility.

Problems may be—

- (1) Viability of pollens, shape, size, germination, tube growth, etc., under different conditions.
- (2) Study of ovules.
- (3) Other problems that might arise out of the trials of various methods for inducing fertility.

It is proposed that cytological work will be under the Economic Botanist to Government of Bombay, in whose laboratory at Poona the work will be carried out by the Assistant in spare time after getting himself trained.

(Sd.) MAGANLAL L. PATEL,
Cotton Breeder, South Gujarat, Surat.

Copy of letter No. 1-187, dated the 11th January 1938, from the Commissioner of Agriculture, Baroda State, Baroda, to the Secretary, Indian Central Cotton Committee, Bombay.

Proposal for the better marketing of 1027 A.L.F. cotton of the State by the Government of Baroda.

I have the honour to submit herewith a proposal by the Government of Baroda on the matter of the establishment of a marketing centre at Surat to deal with 1027 A.L.F. cotton produced by groups and co-operative sale societies in the State. The general working of the scheme will be closely analogous to that holding on the Verun marketing scheme in the C. P. Outside the actual marketing office as asked for the State will be responsible for the organisation required at the different pooling centres. They will also make arrangements for the necessary funds to meet advances to the cultivators against the *kapas* deposited by them at such pooling centres.

Proposals submitted to the Indian Central Cotton Committee for the better marketing of 1027 A.L.F. cotton of the State by the Government of Baroda.

There is but little doubt that though 1027 A. L. F. is admittedly the best cotton grown in the area south of the Nerbudda, it suffers in comparison with the so-called 1A, now but a mixture of Surti cottons with some predominance of the variety once known as 1A, in yield, ginning percentage and its reaction to frost. Further when sold as *kapas* it rarely if ever secures any premium over other cottons on the score of its better lint and spinning qualities. It is only when this cotton is ginned and sold in the bale that the grower secures at least some premium, even though this on the figures of the Indian Central Cotton Committee, is less than it should have, if it is to march on level terms or better terms than at least a pure strain of 1A.

The value of the cultivation of 1027 A.L.F. in this tract rests solely, it is believed, on the fact that its existence as a pure cotton and its percentage of admixture in Surti maintains the general price level of Surat and Baroda cottons as a whole relative to 'Broach.'

The grower of 1027 A.L.F. is in short bearing the burden of maintaining price levels and the reputation of the tract without adequate recompense and indeed, a seller of *kapas* is at a loss in comparison with the grower of 1A, benefiting both by a better yield of lint and the price level. In short he operates so that less patriotic growers may get a satisfactory price for a cotton of a lower grade.

If 1027 A.L.F. were withdrawn to-morrow, it is more than probable that the general value of Surti cottons for the most part cotton of poorer type should fall in price by perhaps Rs. 20 to Rs. 25 a khandi. Thus the only change the 1027 A.L.F. grower derives is that if he gave the cotton up, the cotton he grows would fetch less than it now does by this price, though this might well be neutralised per acre by the increased yield. The only other advantage in 1027 A.L.F. is that in a year like this one with prices down and cotton excess of demand this cotton will sell, whereas considerable amounts of the poorer growths may not.

The Government of Baroda feels that it would in the long run be detrimental to the cotton of the tract if 1027 A.L.F. did not continue to be grown in even larger amounts than is now the case. They however, realise that the few who grow the cotton or are induced to bear the burden of lesser yield and lower ginning cannot always be kept satisfied on specious promises such as have from time to time appeared on the I. C. C. record indicating that an alternative or more appreciative market than Ahmedabad would arise.

They are of the opinion that the I. C. C. C., whatever the correctness of a long term view of the position, must take active steps to verify the existence of the new market. It is, they feel, impossible to utilise all departmental machinery in the advancement and maintenance of 1027 purely because it keeps up the general reputation of the tract for others.

It is clear that Ahmedabad is never going to provide a market willing to give 1027 A.L.F. its due price. In so far as the major use of cottons is concerned at Ahmedabad, ordinary Surti, 1A and the like provide all the staple required. 1027 A.L.F. may be better, but, if it is on the spinning mixture only used in work which 1A will do and if the mills for higher counts look to a more cheaply secured in so far as transport is concerned and earlier got Sind American for the classes of goods in which a better staple is needed there is never likely to be an adequate market, unless the I. C. C. C. steps in, purchases pure 1027 A.L.F. substantially at a fair premium and puts it on the Liverpool market in sufficient bulk as to see whether or not this long promised market really exists.

They are of the opinion that, unless this alternative market is not a chimera, it is probably not worth while attempting to maintain or build up the general and old level of Surti cotton by continuing to back 1027 A.L.F. It certainly does not pay, as things stand to-day, the party who is now doing so to continue to hold the baby. Either he must somehow or other get an adequate price, say at least Rs. 20 over Surti in a year of average cotton prices or he can no longer in his own interests be induced or advised to adhere to this cotton, as it is doubtful whether the general fall in prices which Government admit would be likely to follow would leave him individually in a worse position than he now is on the basis of lower yield and lower ginning plus, if a *kapas* seller, no offsetting premium on quality.

The Government of Baroda, however, realise that in part the inadequate price now got can be improved on, even if not to the height it should, at any rate to a level which may still make it worth the while of the State to concentrate on 1027 A.L.F. with a view to preventing a general fall in price of all cotton south of the Nerbudda by a greater movement towards the sale of this cotton co-operatively in bales and not individually as loose *kapas*. Further that a movement in this direction, assuming the I. C. C. C. step in the reaction of the Liverpool market and that this responds, would enable the provision of this genuine certified 1027 A.L.F. in that market's hands in sufficient quantity.

To assist this organisation of the growers into societies concentrating on 1027 A.L.F., work which will be undertaken by the State, they are of the opinion that a definite marketing organisation handling 1027 A.L.F. of the State in Surat in the way in which Verum cotton is dealt with in the Central Provinces is essential, if there is to be any hope of maintaining 1027 A.L.F.

The Government of Baroda, reacting on the expressed opinion of the value of 1027 A.L.F. to the grower of the tract in which it occurs, have in order to guarantee a sufficient supply of first class seed, opened a seed farm at a cost of Rs. 29,070 and have maintained a staff of fieldmen to assist the Cotton Officer and as guaranteeing that the cotton on their A grade growers' farms and B grade groups whence seed passes out to the general public, is pure and worth the assistance subsequently given by the Indian Central Cotton Committee in the disposal of seed from seed depôts. With these organisations they have this year 2,000 bighas of A grade farmers' seed and between 18,000 and 20,000 B grade and can from their farm centre raise these to 4,000 and 40,000 bighas.

They feel further that, outside the societies or groups providing the latter, it is possible to build up other societies to take on this seed and to gin and press for market thus producing what might be termed C grade 1027, i.e., as not so closely supervised in the field but as growing however a very high grade of 1027 A.L.F. under supervised ginning, provided bale marketing facilities are improved and the cotton thus goes out with some guarantee through an organisation bent on its better marketing.

If 1027 is to be increased it is essential :—

- (a) for the grower to sell through a pool,
- (b) for a selling organisation to control his interests in Surat.

Last season it was noticed that 1027 A.L.F. had at times difficulty in the early part of the season in securing a premium. As an experimental measure somewhat too late in the season to be fully effective, the State established a temporary Marketing Office at Surat. It was at once clear that an agency of this kind

materially helped. 1027 A.L.F. in bale lots of 25 bales and over was sold out at from Rs. 12 to Rs. 18 premium over Surti at that date of sale. It is thus felt that some organisation of that kind as operating for Verum cotton in the Central Provinces is desirable so as to market effectively the products of the several grades as are now being created by groups and societies, who have been induced to stand by 1027.

In taking up the scheme for 1027 A.L.F. cotton marketing in the Baroda State, it will be desirable to have an office at Surat for at least three years.

Under the scheme pooling centres would be formed at different ginning and pressing factories and the process of marketing lots according to grade and the cotton area will be supervised by the Agricultural Department, who can then issue necessary certificates of quality of the cotton brought to the pool. The supervising staff will keep the Marketing Officer at Surat in touch with the stock so as to enable him to dispose of the same at the best prices that can be secured.

The necessary establishment and expenses of an office at Surat will be as follows :—

1. The services of the Marketing Officer should be subscribed for this purpose for about 5-6 months and as in the Central Provinces he should be granted an allowance of Rs. 100 per month.
2. One Accounts Clerk and two typists and two peons and one faras should be allowed to him to conduct the office.
3. Among other expenses, rent, telephone, telegram, printing and contingency with a non-recurring expense of furniture should be provided.

The estimated cost per year on the above lines will be as follows :—

Item.	For month.	Full six months' period.	As sanctioned by the Committee.
	Rs.	Rs.	Rs.
Allowance of Marketing Officer	100	600	300
1 Accountant	50	300	300
2 Typists Clerk	40 (each).	480	480
2 Peons	15 (each).	180	90
1 Faras	12	72	72
Rent and Rates	50	300	..
Telephone, telegram, postage and contingency	..	600	600
Printing	..	300	300
Travelling allowance	..	300	300
Non-recurring furniture	..	300	..
Total ..		3,432	2,442
For three years ..		10,296	7,326
Or roughly		10,000	

The above expenses have been calculated for a full term of six months and may vary according to season and period during which the necessity of the office is desired.

The Government of Baroda, while still emphasising the need for drastic steps, by the Indian Central Cotton Committee in the effective establishment of an overseas demand or at least of a verification of its existence as by steps indicated earlier, believe that much can be done to support 1027 A.L.F. and with at the general price levels of the cotton of the tract as a whole by the greater organisation of the grower of this cotton into pools, selling lint through the medium of an organisation of this kind and they thus request the Indian Central Cotton Committee to further this by financing the proposal made above.

(Sd.) R. G. ALLAN,

Commissioner of Agriculture, Baroda State.

United Provinces Botanical Scheme.

INTRODUCTION.

The United Provinces cotton crop which has decreased in area from an average of about 9½ lakhs acres in the decennium 1917-1926 to just over 7 lakhs acres average in 1927-36 is generally held by the spinning industry to have degenerated in quality also during this twenty-year period. Among the causes contributing to the reduction in area are the competition of other cash crops, notably sugarcane; the fall in cotton prices; and a number of years of adverse weather conditions.

While the generalisation of quality degeneration does not appear to be well founded for the bulk of the crop in the Ganges-Jumna Doab cotton tract, it applies with much force to the Bundelkhand tracts which supplied the Harpalpur Jumnapar styles, and to the cottons of Rohilkhand and Western Oudh known to the trade as Chandausi, Kashipur, and Madhoganj styles, the bulk of which consisted of fine linted but low ginning cottons. In the absence of improved types of suitable habit combined with desirable lint characters, yield and ginning percentage, the natural economic response to low prices has here been the introduction by the cultivators of seed of hardy, early, coarse linted, but high ginning cottons from the west of the Province in mixture with the local finer linted strains.

As a preliminary to the re-establishment of the best strains of the local cottons in these areas combining higher spinning quality, yield and ginning outturn, the Indian Central Cotton Committee financed a survey of the Bundelkhand and Rohilkhand cotton crops; while in the past season a large collection has been made departmentally from the Madhoganj tract. From the best of this material, strains of improved Bengals cotton are to be developed for rain fed cultivation and for irrigated areas suitable for Bengals types, but particularly for the tracts above-mentioned. In addition to this main plank in the cotton policy of the department, the possibilities of longer stapled cottons for areas under Pink Bollworm control have also to be explored.

The work of the next few years thus resolves itself into two parts, namely, the purification and testing of the cotton survey material, along with further improvement by selection in the established types C 402 and C 520; and the trials of the present available improved types and of introductions from outside the province including such longer stapled cottons as promise to be suitable to the area.

The material available consists of:—

- (a) Selections from nearly 23,000 single plant collections made in the survey of Bundelkhand and Rohilkhand cottons, 1933-34; 1934-35; 1935-36.
- (b) About 2,000 single plant selections from field survey of Bundelkhand tract.
- (c) Pure strains selected from C 402 and C 520.
- (d) "Perso-American" an acclimatised American type from Dr. Leake's collections.
- (e) Introductions from Punjab, Sind, Central Provinces and Indore.

There is every reason to believe that the cotton growing industry indigenous to these provinces cannot only be rehabilitated, but that the provision of better types of Bengals and of suitable longer stapled cottons will result in benefit to the growers, ginners, local spinners and exporters. To this end a tentative programme of work has been laid down, the fulfilment of which will require material financial assistance from the Indian Central Cotton Committee.

For convenience of consideration the scheme outlined below has been drawn up in two parts. For the first, which deals mainly with the cotton survey material, a grant of Rs. 78,115 spread over five years is requested; and Rs. 13,265 for part II, which contemplates extensive farm and cultivators' field trials of improved types, local and introduced.

U. P. Cotton Botanical Scheme :—

				<i>Recurring.</i>	<i>Non recurring.</i>	<i>Total.</i>
Part I	..	..	..	73,515	4,600	78,115
Part II	..	..	..	13,265	..	13,265
Total	..	..	..	86,780	4,600	91,380

*Scheme of Work.**Part I.**A. Survey material :—*

(a) Detailed examination, purification, and replicated trials of selected strains suitable for direct issue.

(b) Examination of suitability as parents for hybridising for longer staple.

As a result of cotton survey of the Bundelkhand and submontane tracts of the United Provinces financed by the Indian Central Cotton Committee for four years commencing July 1933, a large number of selections have been made from Rohilkhand and Bundelkhand divisions. From a total of 22,915 single plant collections of 1933 and 1934, fifty of the most promising selections have been tested for the second year in single row replicated progeny trials; while from 1935 material selections will be made for second replicated trials, and 275 single plants from the 1936 collections of nearly six thousand have been chosen for further studies. The preliminary results so far obtained show great promise in the material and warrant very full and detailed further study.

A detailed programme of work for the next five years is submitted (Enclosure I.)

B. Improvement of C 402 and C 520 :—

Twenty pure strains of C 402 and ten of C 520 will be worked up at the four proposed cotton research centres, Cawnpore, Raya, Atarra and Nagina.

*Part II.**C. Trials of short and medium staple types against local in Pink Bollworm controlled areas and other cotton tracts of the Province :—*

For assessing the value of the established strains replicated variety trials will be laid out extensively both on the Government farms and on cultivators' fields in various cotton tracts under irrigated and unirrigated conditions as per programme attached (Enclosure I). These will disclose the relative efficiency of a number of short and medium staple strains of Northern and Central India as against the improved United Provinces types with respective local strains as controls.

D. Trials of longer staple varieties in Pink Bollworm controlled area : and in other cotton tracts (suitably measured by growth behaviour) in anticipation of Pink Bollworm control extension :—

The performance of suitable Punjab and Sind American varieties will be tested by replicated trials on Government farms under irrigated conditions as per appended programme (Enclosure I). A comparison of plant growth observations recorded in Pink Bollworm controlled and uncontrolled areas will indicate the suitability or otherwise of staple cottons for immediate introduction upon the extension of Pink Bollworm control.

E. Selection from improved types from other Provinces :—

Promising types will be tested in replicated lay-outs at Cawnpore, Raya, Nagina and Atarra, representing the Lower and Upper Doab, Bundelkhand and Rohilkhand tracts.

Facilities and additional requirements.

Cotton research is at present located at Cawnpore and Raya. Half of the Cawnpore Research Farm and all the Raya Cotton Farm, are at the disposal of the Economic Botanist for Cotton and Rabi Cereals, who, with his technical staff of three graduate Assistants conducts research upon cotton, wheat and barley.

Complete examination of the survey material, extensive trials of the improved varieties against respective local controls under varying conditions and the performance of American varieties will supply information which is essential to the proper planning of future development programme.

The programme outlined will however require additional facilities of land in Bundelkhand and Rohilkhand for sub-stations, along with staff for headquarters, for Raya Farm, and for the sub-stations which will be accommodated at Atarra and Nagina Farms where it is proposed to set aside ten acres of the farms for cotton research.

The time and work involved in conducting and analysing the results of the proposed examinations and trials are beyond the powers of the present staff. The work at the research centres is to be carried out directly under the Botanical staff. Field trials on established types under cultivators' field conditions will be organised by the district Agricultural staff, under the directions of the Economic Botanist but layouts, periodical supervision, and analysis of data will have to be done by the Cotton Botany Section.

To carry out the work effectively, additional staff and contingent provision are required as summarised below. It is hoped that the Indian Central Cotton Committee will see its way to providing this. Details of budget estimate are given in Enclosure II.

Staff :—	Recurring.	Rs.
1 Senior Botanical Assistant, Cawnpore	150—10—250	
1 " " " Raya	150—10—250	
1 Technological Assistant, Cawnpore	160—10—250	
1 Statistical Assistant, Cawnpore	110—5—150	
1 Laboratory Assistant, Cawnpore	30—1/2—35	
4 Kamdars (literate), for Cawnpore (2), for District work (2) ..	20—1/2—23—1—30	
2 Field attendants, for Nagina (1), for Atarra (1) ..	12—1/2—15	
1 Laboratory attendant for Raya	12—1/2—15	
<i>Travelling Allowances :—</i>		
Economic Botanist (Cotton) Additional	1,000	
Assistants	750	
<i>Contingencies :—</i>		1,750
Cost of Field experiments	2,000	
Research Farm (Additional) expenditure, Cawnpore, ..		
Nagina and Atarra	1,500	
Chemicals and apparatus	350	
Miscellaneous office contingencies	600	
<i>Non-recurring.</i>		4,450
Equipment (additional) furnishing, Cawnpore, ...	2,500	
Raya	500	
Nagina	700	
Atarra	900	
		4,600

Relative expenditure by United Provinces Government and the Indian Central Cotton Committee.

The estimated cost for five years of the provision requested as a grant is Rs. 78,115 for Part I, and Rs. 13,265 additional for Part II of the scheme, a total of Rs. 91,380.

The net expenditure of the United Provinces Government on the Cotton Botany Section during the same period will amount approximately to Rs. 93,500. This is derived as follows :—

	Recurring.	Rs.
Half the annual cost of the Section of Economic Botanist, Cotton and Rabi Cereals (Excluding two assistants, Nagina and Atarra who will be relieved of other work); half cost of staff and maintenance of Raya Cotton Farm, and quarter cost of Cawnpore Research Farm, approximately Rs. 17,100 × 5	85,500	
Botanical Assistants, Nagina and Atarra 2,400 × 5	12,000	
		97,500
Less saleable cotton approximately 60 acres per annum 1,800 × 5 ..	9,000	
		88,500
<i>Non-recurring.</i>		
Construction and adaptation of buildings for laboratories	5,000	
Grand Total		93,500

The United Provinces Government is thus making a very considerable contribution to cotton botany. Admittedly much of the expenditure is not new. The additional provision for cotton work, including half the time of the botanical assistants at Nagina and Atarra previously directed to *rabi* cereals, amounts to Rs. 16,000 of the recurring total, and Rs. 5,000 non-recurring. The United Provinces Government is not at present able to supplement its provision for botanical improvement of the cotton crop, and in view of the need to raise the standards of outturn and spinning value, and of the fact that the Province has maintained a cotton research section unaided for many years, it trusts that the grant applied for will be fully approved.

Enclosure I.

Detailed technical programme of work for the next five years.

The major portion of this programme follows that drafted by Mr. J. B. Hutchinson in consultation with the Director of Agriculture, United Provinces, and Economic Botanist (Cotton), after examining the material in hand reviewing both the previous researches and the cotton position in the Province.

Part I.

A. Purification and detailed examination of the Bundelkhand, Rohilkhand and Madhoganj survey material :—

- (a) for evolving improved strains for all suitable *barani* and irrigated cotton areas, particularly for Bundelkhand and Chandausi-Kashipur tracts. Detailed programme as tabulated ;
- (b) as parents in hybridizing for obtaining suitable types of longer staple. Programme will be submitted when survey material is fully studied.

B. Further improvement in C 402 and C 520 cottons :—

Programme of work as tabulated.

Part II.

C. Yield trials of improved strains :—short and medium staple :—

Extensive trials of improved strains (C 402 and C 520) against local and other standard varieties available in Northern and Central India. Such trials to be conducted in Pink Bollworm controlled and other cotton tracts of the Provinces both on Government farms and on cultivators' fields under irrigated and unirrigated conditions.

(i) Government farms :—

- (a) *Barani* :—Verum, Malvi 9, C 520, C 402, local (Control). Trials to be arranged in six randomised blocks with 1/50th acre plots and to be distributed on farms throughout the *barani* cotton growing areas of the Province. Each plot to be further divided into two sub-plots for introducing the spacing factor.

*Places :—*Etawah Farm;
Bichpuri Farm.
Aligarh College Farm.
Kalyanpur Farm.
Kalai Farm.

Hardoi Farm
Raya Farm.
Bulandshahr Farm.
Meerut Farm.
Mainpuri Farm.

- (b) *Irrigated* :—Verum, Malvi 9, C 520, C 402, Perso-American, local (Control).

Trials to be arranged as above and distributed on farms throughout the irrigated cotton growing areas of the Province.

*Places :—*Etawah Farm.
Bichpuri Farm.
Aligarh College Farm.
Kalyanpur Farm.
Kalai Farm.

Hardoi Farm.
Raya Farm.
Bulandshahr Farm.
Meerut Farm.
Mainpuri Farm.

(ii) *Cultivators' Fields :—*

In order to determine the value of the existing United Provinces strains under cultivators' conditions three sets of "scattered block" experiments will be conducted.

(a) *Pink Bollworm controlled areas, barani ; C-520 and local (control).*

To be distributed as widely as possible wherever C-520 has been or may be advocated.

*Districts :—*Cawnpore.
Hardoi.
Bulandshahr.
Aligarh.
Muttra.
Mainpuri.
Saharanpur.
Meerut.
Agra.

In each district villages to be selected ; two cultivators in each village to sow the two varieties separately.

(b) *Pink Bollworm uncontrolled area, irrigated ; C-520, C-402 and local (control)*

To be distributed widely wherever C-520 or C-402 has been or may be advocated.

*Districts :—*Aligarh.
Meerut.
Bulandshahr.
Mainpuri.
Etawah.
Agra.
Saharanpur.
Cawnpore.
Hardoi.

In each district villages to be selected ; cultivators in each village to sow the three varieties separately.

(c) *Pink Bollworm controlled areas. C-520, C-402, Perso-American and local (control).*

To be distributed in eight villages in the controlled areas.

<i>Places :—</i>	Bahadurabad	2 villages	canal irrigated
	Atrauli	2 villages	well irrigated.
	Charna	1 village	Do.
	Khair	1 village	Do.
	Kalai	1 village	Do.
	Somna	1 village	Do.

Cultivators in each village to sow four varieties separately.

D. Trial of longer staple varieties in Pink Bollworm controlled areas ; and other cotton tracts for suitability (measured by growth behaviour) in anticipation of Pink Bollworm extension :—

Variety trials of Punjab and Sind-American will be carried out against Perso-American as the control on Government farms in irrigated Pink Bollworm controlled areas. Periodic observations on germination and fortnightly records of plant height, growth rate, number of monopodia, sympodia, buds, scars, flowers and bolls, emergence of flower, yield and percentage of bollworm infestation will be taken for each variety.

Similar data will be collected for the same varieties grown in uncontrolled areas and their suitability to the locality upon extension of Pink Bollworm control will be deduced from vegetative behaviour.

*Places :—*Agricultural Farm, Kalai.
Aligarh University Farm.
Raya Farm.
Kalyanpur Farm.
Badaun Farm.
Etawah Farm.
Bichpuri Farm.

E. Provision of improved types by selection from existing approved types of other provinces :—

The suitability of types that have proved successful elsewhere in India for the United Provinces, will be tested by introducing such types, and testing their behaviour in replicated trials at Cawnpore, Raya, Nagina and Atarra.

Part I.—Detailed Programme of Work—Tabulated Statement.

A. Purification and detailed examination of the survey material.

(a) For selection of approved types for particular areas.

Source of material and year of collection.	Original No. of single plant collections.	Stage of test during January 1937.	I year of scheme 1938.	II year of scheme 1939.	III year of scheme 1940.	IV year of scheme 1941.	V year of scheme 1942.	Remarks.
Budaun, Bareilly, Moradabad, Naini Tal (Kashipur and Bazar) districts and Rampur State in 1933 ..	5,032	50 strains in single row replicated progeny trials for the II year.	About 20 desirable strains to be tested with local <i>Desi</i> as control in 4 row replicated trials.	8-10 promising strains with a control put in right replicated trials in 1/50th acre.	Trials to be repeated and small scale multiplication of the best strains to be undertaken.	Trials to be repeated and seed of promising varieties to be issued to other departments for trials.	Large scale multiplication of the best types for seed purposes.	Trials to be carried out at Cawnpore, Raza, Nagina and Atarra.
Hanipur, Banda, Jhansi districts and Charkhari, Ajaigarh, Panna, Chattarpur and Alipura States in 1934	6,228							
Naini Tal, Moradabad and Bijnor districts in 1935 ..	5,919	60 strains in single row replicated trials for the I year.	About 30 strains with a control in single row replicated trials for the II year.	15 selected strains with local control in 4 row replicated trials.	6-8 strains with a control in right replicated trials in 1/50th acre plots.	Trials to be repeated and small scale multiplication of a few promising strains to be taken up.	Trials to be repeated and seed of promising varieties to be issued to other departments for trials.	Trials to be carried out at Cawnpore, Raza, Nagina and Atarra.
Bijnor district, Jalaun, Unao, Dadergarh, Nainigan, Seonda, Jattara and Datia State in 1936	5,736	610 strains sown in single row for I year.	275 single plant selections to be grown in single rows of 50 plants each.	About 60 strains with a control to be tested in single row replicated trials.	30 strains with a control in single row replicated trials for II year.	15 strains with a control in 4 row replicated trials.	6-8 strains and a control in right replicated trials.	Trials to be carried out at Cawnpore, Raza, Nagina and Atarra.
Hardoi district in 1937 ..	2,000	Collection of material from the cultivators' fields.	About 500 single plant collections to be grown in single rows at Cawnpore.	About 200 to be grown in single rows of 50 plants each.	About 60 strains with a control to be tested in single row replicated trials.	About 30 strains with a control in single row replicated trials.	15 strains with a control in 4 row replicated trials.	Trials to be carried out at Cawnpore, Raza, Nagina and Atarra.

(b) As parents in hybridizing for obtaining suitable types of longer staple.

Programme for this will be submitted later when the survey material is fully studied.

B. Further improvements in C 402 and C 520.

Hutchinson has indicated that further improvements in C 402 and C 520 can be effected by selection within the supposed pure strains. Further isolation of their progenies will, therefore, be taken up as under :—

	Stage of test during 1937.	I year of scheme.	II year of scheme.	III year of scheme.	IV year of scheme.	V year of scheme.	Remarks.
C 402	20 pure strains 4 selected on basis of lint length and ginning percentage were sown in 100 plots.	row replicated trial of 15 selfed strains to be conducted with C 402 as control.	6-8 strains each in 1/50 acre plots to be tested in replicated trials.	Trial to be repeated and some promising strains to be multiplied on a small scale.	Trials to be repeated and issue of suitable seed to other departmental farms for trials.	Large scale multiplication of best types.	Trials to be carried out at Cawnpore, Rava, Nazina and Atarra, and selections to be made on basis of lint length, ginning percentage, yield and field behaviour.
C 520	10 pure strains 4 sown as above.	row replicated trial of 10 strains with C 520 as control.	4-6 strains to be tested as above.	Do.	Do.	Do.	Do.

ENCLOSURE II.

Part 1.

Staff and contingent expenditure requirements for 5 years commencing 1st April 1938.

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
RECURRING.						
<i>Staff, leave salary, Provident Fund contributions.</i>						
Headquarters of E.B., Cotton, Cawnpore.						
1 Senior Assistant .. (150—10—200).	1,800	1,920	2,040	2,160	2,280	10,200
1 Technological Assistant (160—10—200).	1,920	2,040	2,160	2,280	2,400	10,800
1 Laboratory Assistant. (30—1/2—35).	360	366	372	378	384	1,860
2 Kamdars (literate) to be deputed at places of heavy work .. (20—1/2—23—1—30).	480	492	504	516	528	2,520
<i>Raya Farm.</i>						
Senior Assistant (150—10—200).	1,800	1,920	2,040	2,160	2,280	10,200
1 Laboratory Assistant (12—1/2—15).	144	150	156	162	168	780
<i>Nagina Sub-Station.</i>						
1 Field Attendant .. (12—1/2—15).	144	150	156	162	168	780
<i>Atarra Sub-Station.</i>						
1 Field Attendant .. (12—1/2—15).	144	150	156	162	168	780
Leave Salary ..	295	295	295	295	295	1,475
Provident Fund contribution.	552	588	624	660	696	3,120
<i>Travelling Allowance.</i>						
For Economic Botanist Cotton (Additional) ..	1,000	1,000	1,000	1,000	1,000	5,000
For Assistants	750	750	750	750	750	3,750
<i>Contingencies.</i>						
Cost of Field experiments.	2,000	2,000	2,000	2,000	2,000	10,000
Research farm contingencies for Cawnpore, Nagina and Atarra (additional).	1,500	1,500	1,500	1,500	1,500	7,500
Apparatus for Cawnpore and sub-stations ..	350	350	350	350	350	1,750
Miscellaneous for office contingencies	600	600	600	600	600	3,000
Total recurring ..	13,839	14,271	14,703	15,135	15,567	73,515

ENCLOSURE II (contd.)

Part I—(contd.)

Staff and contingent expenditure requirements for five years commencing from 1st April 1938—(contd.)

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
NON-RECURRING.						
<i>Cawnpore.</i>						
Calculating machine ..	1,000	..	..	..	..	1,000
Apparatus for spinning and testing fibre length ..	1,000	..	..	..	..	1,000
Meteorological instruments and miscellaneous apparatus ..	500	..	..	..	..	500
<i>Raya.</i>						
Meteorological instruments and miscellaneous apparatus ..	500	..	..	..	..	500
<i>Nagina.</i>						
Laboratory benches, balances, slide rule, microscope and other apparatus ..	700	..	..	..	..	700
<i>Atarra.</i>						
Laboratory benches and apparatus, meteorological instruments, microscope, etc. ..	900	..	..	..	..	900
Total Non-recurring ..	4,600	..	..	..	..	4,600

Note.—Details to be submitted for approval before purchase.

SUMMARY.

Part I.

Recurring expenditure Rs.	13,839	14,271	14,703	15,135	15,567	73,515
Non-recurring expenditure	4,600	..	..	..	..	4,600
Grand Total .. Rs.	18,439	14,271	14,703	15,135	15,567	78,115

ENCLOSURE II.

Part II.

Staff requirements for five years commencing from 1st April 1938.

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
RECURRING.						
<i>Staff, leave salary, and Provident Fund contribution.</i>						
Headquarters of E. B., Cotton, Cawnpore. ..						
1 Statistical Assistant .. (110—5—150).	1,320	1,380	1,440	1,500	1,560	7,200
2 Kamdars (literate) to be deputed at places of heavy work .. (20-1/2-23-1-30).	480	492	504	516	528	2,520
Provident Fund contribution	132	138	144	150	156	720
Leave salary ..	65	65	65	65	65	325
<i>Travelling Allowances.</i>						
For Economic Botanist						
Cotton (Additional) ..	250	250	250	250	250	1,250
For Assistants ..	350	250	250	250	250	1,250
Total Recurring ..	2,497	2,575	2,653	2,731	2,809	13,265

Note.—No separate provision has been made for contingent expenditure or apparatus as this is included in estimate for Part I scheme.

SUMMARY.

Part I & Part II.

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
Recurring expenditure Part I Rs.	13,839	14,271	14,703	15,135	15,567	73,515
Recurring expenditure Part II Rs.	2,497	2,575	2,653	2,731	2,809	13,265
Total Rs.	16,336	16,846	17,356	17,866	18,376	86,780
Non-recurring expenditure Part I Rs.	4,600	..	..	..	..	4,600
Grand Total Rs.	20,936	16,846	17,356	17,866	18,376	91,380

ENCLOSURE III.

The staff and facilities included in the entire scheme and the source of provision.

	To be provided by.	To be provided by.
(1) <i>Research and Field Staff :—</i> <i>Headquarters, Caunpore.</i>		U. P. Government..
Economic Botanist	Indian Central	
1 Senior Assistant	Cotton Committee.	
1 Technological Assistant	Do.	
1 Statistical Assistant	Do.	
1 Field Attendant		Do.
2 Laboratory Assistants	Do.	
1 Laboratory Attendant		Do.
4 Kamdars (literate)	Do.	
Ministerial staff		Do.
Menial staff		Do.
Farm staff (shared with Economic Botanist, Oilseeds)		Do.
<i>Raya Farm, Muttra :—</i>		
1 Senior Assistant	Do.	
1 Laboratory Attendant	Do.	
Farm Superintendent	Assist also in experiments.	Do.
Asstt. Farm Superintendent		
Overseer		
Fieldmen		
Clerk		Do.
<i>Nagina Sub-station :—</i>		
1 Botanical Assistant		Do.
1 Field Attendant	Do.	
Farm Staff (Part)		Do.
<i>Atarra Sub-station :—</i>		
1 Botanical Assistant		Do.
1 Field Attendant	Do.	
Farm staff (Part)		Do.
<i>Cultivators' field trials.</i>		
Circle staff		Do.

ENCLOSURE III—(contd.)

The staff and facilities included in the entire scheme and the source of provision—(contd.)

	To be provided by.	To be provided by.
2. <i>Travelling allowances.</i>		
Economic Botanist and present staff.		U. P. Government.
General	Indian Central Cotton Committee.	
Additional	Do.	
Indian Central Cotton Committee staff	Do.	
3. <i>Contingent Expenditure.</i>		
Research Farms, Normal	Do.	Do.
Additional	Do.	
Chemicals and apparatus, etc., Normal	Do.	Do.
Additional	Do.	
Miscellaneous office contingencies, Normal	Do.	Do.
Additional	Do.	
4. <i>Laboratories and Major Apparatus, Cawnpore.</i>		
Existing laboratory and equipment		Do.
Additional accommodation		Do.
Calculating machine, Technological instruments, etc.	Do.	
<i>Raya :—</i>		
Conversion of building to laboratory. Equipment	Do.	Do.
<i>Nagina :—</i>		
Construction of laboratory	Do.	Do.
Equipment and Furnishing	Do.	
<i>Atarra :—</i>		
Conversion to laboratory	Do.	Do.
Furnishing and equipment	Do.	
5. <i>Farms :—</i>		
<i>Cawnpore.</i>		
12 to 15 acres annually under cotton experiment		Do.
<i>Raya (Muttra).</i>		
40 acres annually under cotton experiment and multiplication		Do.
<i>Nagina (Bijnor).</i>		
10 acres to be reserved for cotton research		Do.
<i>Atarra (Banda).</i>		
10 acres to be reserved for cotton research		Do.
6. <i>Cultivators' Field Trials.</i>		
Cost of experiment Rs. 2,000 per annum	Do.	

APPENDIX VIII.

SUBJECT 41.—*Summary of Proceedings of the Standing Finance Sub-Committee.*

- (a) *Balance Sheet.*
- (b) *Financial Statement.*
- (c) *Revised Estimates, 1937-38.*
- (d) *Budget, 1938-39.*
- (e) *Auditors' Fees.*

Four meetings of the Sub-Committee were held since the last meeting of the Committee in August 1937. Messrs. G. C. R. Coleridge and S. B. Samoilys have since resigned from the Committee and the question of filling their vacancies will be taken up after the appointment of their successors.

2. Non-official members of the Committee are, under the Rules, paid travelling allowance from their usual places of residence for attending the meetings of the Committee. On a reference from Mr. Balak Ram, the Punjab Commercial representative on the Committee, who claimed travelling allowance from Srinagar (Kashmir), his summer residence, to Bombay to attend the meetings of the Committee held in August last, the Sub-Committee decided that non-official members should be paid travelling allowance from their headquarters or from the place from which the journey was actually made to attend the meetings of the Committee, whichever was nearer.

3. The Sub-Committee considered the question of starting schemes sanctioned by the Committee at its meeting held in August 1937 according to their relative importance and sanctioned the following order of priority :—

Extension Schemes :—

- (1) Plant Puller Propaganda Scheme in Baroda—Rs. 15,123 over a period of two years from January 1938.
- (2) Joint Scheme for the estimation of effects on the cotton crop of the use of plant puller in the Bombay Presidency and Baroda State—Rs. 2,369 from 1st December 1937 to 31st May 1938.
- (3) Hyderabad Pink and Spotted Boll-worm Scheme (research part) for a further period of one year from 1st October 1937 to the 30th September 1938, at a net additional cost of Rs. 10,579.
- (4) Deccan Canals (Banilla) Scheme—Extension of the leased area by 60 acres involving an additional expenditure of Rs. 205.

New Research Schemes :—

- (1) Scheme for Cotton Jassid Investigation in Sind—Rs. 10,571 spread over a period of 3 years and 6 months.
- (2) Scheme for the maintenance of nucleus of pure seed of all varieties of cotton in Bombay and Sind—Rs. 2,660 per annum in the case of Bombay and Rs. 2,500 per annum in the case of Sind.

4. On a reference from the Director of Agriculture, Punjab, the Sub-Committee considered the question of the payment of arrears of Provident Fund subscriptions after the termination of a member's service from the Committee and decided that no employee of the Committee should be permitted to make any contributions to the Provident Fund for his past services as an employee of the Committee after the termination of his services.

5. The Technological Research Sub-Committee at its meeting in August last considered the question of fixing charges for tests on foreign cottons supplied by firms in India and decided that a separate schedule on a higher basis should be drawn up for such tests by the Director, Technological Laboratory, and submitted to the Committee for approval. The Sub-Committee considered and approved the recommendation of the Director, Technological Laboratory, that the revised charges sanctioned by the Committee at its last meeting for the various tests carried out at the Laboratory should be applied, with an addition of 25% to foreign cottons supplied by firms in India.

6. In pursuance of the Resolution passed by the Committee at its last meeting, the Sub-Committee examined the question of effecting economies in the establishment charges of the Secretary's office and decided that no scope for reduction existed. Its further recommendations regarding the procedure to be followed in

connection with the research schemes of the Committee are contained in the following resolution which was passed unanimously by the Sub-Committee :—

“That the Standing Finance Sub-Committee, having considered the reference made to them by the full Committee at their meeting in August last, recommended that, in future, all new schemes and proposals should be considered at the monsoon meeting by the Agricultural Research Sub-Committee whose recommendations should be circulated to the Standing Finance Sub-Committee for studying the financial aspects of the schemes and that before the cold weather meeting of the full Committee, there should be a joint conference of the Agricultural Research and Standing Finance Sub-Committees. The combined report, embodying the reflections of both the Sub-Committees, should then be put up for consideration and final decision before the full Committee. Barring this change the Sub-Committee understand that those who spoke on this proposal at the full Committee meeting in August last did not intend any further modifications. Regarding the financial position of the Committee, on a review of the forecast of the revised estimates of the receipts and expenditure during the years 1937-38 to 1941-42, as put up by the Secretary, the Sub-Committee feel that there is no necessity to have any fear on the score of finance in so far as the commitments of the Committee up to date are concerned.

As it might possibly be necessary to consider extensions of schemes at either meeting of the full Committee, the Sub-Committee further recommend that the previous part of this resolution should not in any way prevent consideration of such schemes at the most suitable time.”

This also forms a separate subject on the agenda of the Committee.

7. On a reference from the Director of Agriculture, Madras, the Sub-Committee considered the question whether periods spent on leave by servants of the Committee employed in provincial schemes could count for increments, and decided that the Government of India rules which allowed this concession should apply in such cases.

8. The Sub-Committee considered the revised budget estimate for the current financial year for the Punjab Physiological Scheme amounting to Rs. 48,880 against a sanctioned grant of Rs. 43,533. After adjusting part of the excess against savings under other heads, the net excess required amounted to Rs. 5,355. Part of this excess was proposed to be met from the unexpended cash balance of the remittances made during 1936-37 and part by re-appropriation from the future years' grant for the scheme.

The Sub-Committee, however, only sanctioned the utilisation of the unexpended cash balance of Rs. 2,947-14-8 from the savings of 1936-37, expressing its disapproval of the practice of drawing on the grants of future years to meet excess expenditure in past years.

9. The Sub-Committee considered the question of the appointment of auditors for the Committee's accounts for the year 1938-39, and decided to appoint Messrs. S. B. Billimoria & Co. as the Committee's auditors for the year 1938-39 at a remuneration of Rs. 750 per annum.

10. A Balance Sheet* of the audited accounts of the Committee's funds and of the Provident Fund as on the 30th September 1937 and also the Financial Statement* as on 31st December 1937 are attached for information. Rs. 15,15,849-4-2 of the Committee's securities are invested in Government Paper and Rs. 6,13,040-10-0 in long dated Corporation Bonds. The market value of the Committee's securities, as will be seen from the Financial Statement, has appreciated by Rs. 4,69,056-8-10. To finance all the schemes at present in operation, it will be necessary to sell some of the securities.

11. Revised Estimates* of Receipts and Expenditure for the current financial year are submitted for approval. The estimate of receipts from the cess up to the 31st March 1938 has been reduced to Rs. 5,65,000 from Rs. 6,50,000 in August last. The decrease is due to the refund of Rs. 42,370 (rounded) to Burma and also low exports of cotton during the year. Miscellaneous Receipts have been raised to Rs. 6,500 against Rs. 4,000 in August last. The total expenditure for the current year is now estimated at Rs. 11,22,020 as against Rs. 11,91,246 in August last, the decrease of Rs. 69,226 being chiefly due to savings as detailed in the Revised Estimates. The closing balance (excluding recoverable loan amounting to Rs. 12,083-12-10 at the end of the current year will remain at Rs. 19,43,468-5-0 as compared with Rs. 23,83,988-5-0 at the end of last year.

12. The draft budget* for 1938-39 is also submitted for approval. The estimates of receipts from the cotton cess have been shown at the same figure as last year, viz., Rs. 6,50,000. Interest has been reduced from Rs. 1,07,300 to Rs. 1,02,000 owing to the sale of some of the securities which will be necessary to meet current expenditure.

The budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. The profits that might be realised on sale of securities have not been taken into account in arriving at the above estimates.

13. The Local Sub-Committee at its meeting held in November 1937 decided that it was absolutely essential to have the statistics of the arrivals of cotton into Bombay by motor lorry and that the Bombay Government should be requested to make arrangements for the collection of these figures even if the Tobacco Department's duty of examining the road traffic were not retained. On a reference on the subject from the East India Cotton Association, the Sub-Committee decided that the Indian Central Cotton Committee should be prepared to make necessary contribution towards the cost of collecting the above statistics in the event of such a proposal being made by Government.

14. At its meeting held on the 15th January 1938 the Sub-Committee considered the question of the extension of the appointment of the Publicity Officer beyond the date of expiry of his present contract on the 31st May 1938 and the following resolution was passed :—

“The Sub-Committee feel that as the Publicity Section costs nearly Rs. 3,000 a month, a cheaper method of publicity should be devised and examined by the Committee before the Publicity Officer is given any new contract. The Sub-Committee is further of the opinion that unless the policy of the Committee in respect of the schemes financed by it undergoes a substantial change, it is doubtful if there would be enough work left for a special officer in charge of Publicity and Propaganda.”

15. The Audit Reports for 1935 on the Hubli and Gadag Co-operative Cotton Sale Societies were considered by the Sub-Committee and the following resolution was passed unanimously :—

“The Sub-Committee is of the opinion that the state of affairs brought out in the Audit Reports is extremely unsatisfactory. The Director of Agriculture, Bombay, should be requested to take steps to recover the money due to the Committee by the Hubli and Gadag Societies, and if no satisfactory way is shown within a reasonable time, the matter should be placed before the full Committee for consideration whether further assistance to these Societies should not be stopped in the first instance and necessary steps taken to recover the amounts outstanding.”

16. The following procedure for accounting the grants of the Committee for the scheme for the extension of long staple cotton and marketing of Verum cotton in Central Provinces and Berar, as suggested by the Central Provinces Government was considered and approved by the Sub-Committee :—

- (1) That the officials lent to the Committee be treated as on regular foreign service under Fundamental Rule 110,
- (2) that their substantive pay as well as their deputation allowances, etc., should in the first instance be met by the Committee by debiting the charges to the Special Deposit Account,
- (3) that this Government should bear the cost of the pay of the substitutes appointed in their place, and
- (4) that at the end of the year this Government should make a grant to the Committee—representing the difference in cost between the substantive pay of the lent officials and the pay of the substitutes appointed in their place, the amount being debited to a contribution head under ‘Agriculture—Provincial’ and credited to the Special Deposit Account.

APPENDIX IX.

SUBJECT 59.—*Wide parity between Broach and American Cotton in 1936-37—
Reference from Local Sub-Committee.*

(EXTRACT.)

Copy of letter No. 2211-H-436, dated the 29th December 1937, from the Secretary, East India Cotton Association, Ltd., Bombay, to the Secretary, Indian Central Cotton Committee, Bombay.

Re: *Wide Parity between Broach and American Cottons.*

I am instructed by my Board to reply to the correspondence ending with your letter, dated 30th November 1937.

You first raised the question by your letter of the 5th April 1937 and by your letter No. 4516, dated 20th April 1937, explained in detail the idea underlying the inquiry made by you in your said letter. I will reply to the four heads, raised by you, *seriatim*.

(2) The reply is in the affirmative and I beg to comment on it as under:—

There still exists a general impression that in the Broach district proper and in the Surat and Navsari districts a high yielding short staple seed known as Goghari is being sown which has been largely responsible for the deterioration of the staple of the ordinary Broach quality. A tendency for growing such cotton is spreading in the Navsari and Surat areas, and for the last two seasons a large admixture of this Goghari cotton was evidenced in these varieties. While my Board are definitely of the opinion that Broach cotton has deteriorated in staple they do not attribute this as primarily responsible for the low parity of Indian cotton *vis-a-vis* American, as there have been many other contributory factors to this, *e.g.*, lack of holding power; undue speculation in other markets in the City in smaller units for the contract, etc.

My Board are of the opinion that the Government of Bombay in exercise of the powers vested in them under Section 3 of the Bombay Cotton Control Act of 1935 should prohibit cultivation of Goghari cotton, mixing of Goghari cotton with any other cotton and the possession or use of or trade in Goghari cotton or any other cotton with Goghari cotton in the whole of the Broach and Navsari districts. The adoption of this proposal would tend to improve the staple of the ordinary Broach cotton and bring about an appreciation of the Broach Contract relative to other growths and unless this is done the value of the Broach Contract would decline.

(3) The reply is in the affirmative and the Director of Agriculture, Bombay, has correspondence in this respect on his file.

(1) & (4): It is very necessary to have a clear idea of what is meant by 'Parity' which is so freely used in this question and about which there is so much confusion and vain discussion.

To begin with, the basic tenderable cotton for the American contract is $\frac{3}{8}$ " in staple and middling in grade. The basic tenderable cotton against Broach Contract is Fully Good Broach, fair staple. The two cottons being different in quality and used for quite different purposes, there is naturally a difference in price between the two. It is this difference that is referred to by the word 'parity.'

It is popularly assumed that this difference should be a certain figure and it is spoken of as a normal 'parity.' In discussions about parity, the popular mind has, as its background, this normal parity difference between the American contract, say, in Liverpool and the Broach contract in Bombay. If the difference is greater than the assumed figure, Broach contract is said to be ruling at a wide parity and is considered "cheap" to that extent. If it is narrower than that assumed figure it is said to be so much dearer in parity.

To begin with, the arbitrary assumption of a "fixed" or "normal" difference is in itself misleading and fallacious. The difference between these two contracts is normally determined by the relative supply and demand for the basic qualities of these contracts—and the fluctuations in the relative supply and demand for these qualities are reflected in the difference between these two contracts. During the 1936-37 season, up to May 1937 the trade demand for Broach and Punjab Sind-American 4F cotton was exceedingly poor, as the old crop stocks of 4F and Dholle-ras were used by the mills instead. This explains both the low basis of the tenderable qualities and the low contract price of Broach as compared to Americans.

As against this, since the beginning of the year up to April 1937 there was a shorter supply in relation to the very keen demand from everywhere for $\frac{3}{4}$ " to 1" staple cotton, which is the basic quality of the American contract. This fundamental fact underlies the wide parity between the American and the Broach contract referred to in your letter of 5th April 1937. No doubt, other factors such as the deterioration of the Broach staple played their part in the widening of the parity. It is true that the improvement in the Broach staple would lead to an improvement in the relative price of the Broach contract which is the barometer of Indian prices; but the fluctuations in its parity with Americans, depending on the factors of supply and demand of the two basic qualities, cannot be eliminated.

It would be relevant to point out that within a few months from your letter of 5th April 1937 and at the moment of writing, we are witnessing an exactly opposite situation—an extreme narrowing of parity between the American and the Broach contracts. Again, looking to the factors of demand and supply for explanation it will be found that there is a huge over-production and over-supply of $\frac{3}{4}$ " to 1" staple in America. There is a very good demand from trade quarters of good staple Broach and 4F Sind and Punjab cotton, which are the basic qualities of the Broach contract, coupled with the scarcity of these cottons. Bearing in mind the factors of demand and supply both the situations in April 1937 and the present one are understandable and appear to be quite natural. The conclusion, therefore, is that there is no "normal" or "fixed" parity between the Broach and the American contracts, and any inquiry or discussion which is based upon an arbitrary assumption of a "normal" or "fixed" parity difference would be misleading and futile. In fact, fluctuations in the parity difference between the Broach and the Americans should be looked upon as a normal occurrence in the cotton market.

With regard to the basis of long staple cotton such as Surats, Navsari and Sind and Punjab—N.T. and 289F—I would point out that we had a carry-over from the previous season of desirable staples which had a depressing effect on the basis of these staples in the early part of the 1936-37 season. This led to the new crop finding an export outlet owing to the keen demand for $\frac{3}{4}$ " to 1" staple in those markets. As soon as the old crop was taken up by our mills, the basis of these cottons advanced and were maintained throughout the rest of the season. As requested by you, a table showing the relative basis compared with the previous three seasons is enclosed.

DIFFERENCES BETWEEN THE FOLLOWING STANDARDS FOR TENDERS AGAINST THE BROACH HEDGE CONTRACT.

BROACH CONTRACT—Basis—F.G. Broach.		1933-34.	1934-35.	1935-36.	1936-37.
<i>Punjab-American.</i>					
April-May	.. ..	Rs. 6 on-11 on-9 on ..	Rs. 24 on-32 on-30 on ..	Rs. 10 on-12 on-10 on-12 on-11 on.	Rs. 6 on-8 on-7 on-8 on.
July-August	.. ..	Rs. 8 on-7 on-10 on-7 on ..	Rs. 30 on-21 on ..	Rs. 10 on-8 on ..	Rs. 12 on-10 on-12 on-14 on.
<i>Surat.</i>					
April-May	.. ..	Rs. 62 on-64 on-59 on-60 on-59 on.	Rs. 76 on-89 on-70 on ..	Rs. 42 on-36 on ..	Rs. 65 on-62 on-61 on-59 on.
July-August	.. ..	Rs. 59 on-58 on ..	Rs. 70 on-69 on-72 on-71 on-72 on.	Rs. 35 on-33 on ..	Rs. 58 on-53 on.
<i>Nasari.</i>					
April-May	.. ..	Rs. 64 on-66 on-61 on-62 on-61 on.	Rs. 81 on-85 on-75 on ..	Rs. 47 on-45 on-46 on-42 on.	Rs. 75 on-72 on-71 on-69 on.
July-August		Rs. 61 on-60 on ..	Rs. 75 on-74 on-77 on-76 on-77 on.	Rs. 41 on-39 on ..	Rs. 70 on-62 on.

(Signed) C. M. PARIKH,
Secretary, The East India Cotton Association, Ltd.



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